



Cisco Security Cloud Control: AWS VPC Management

Cisco Security Cloud Control

Updated July 2, 2026



© 2023–2025 Cisco Systems, Inc. All rights reserved.

Full Cisco Trademarks with Software License

Full Cisco Trademarks with Software License

THE SPECIFICATIONS AND INFORMATION REGARDING THE PRODUCTS IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE. ALL STATEMENTS, INFORMATION, AND RECOMMENDATIONS IN THIS MANUAL ARE BELIEVED TO BE ACCURATE BUT ARE PRESENTED WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. USERS MUST TAKE FULL RESPONSIBILITY FOR THEIR APPLICATION OF ANY PRODUCTS.

THE SOFTWARE LICENSE AND LIMITED WARRANTY FOR THE ACCOMPANYING PRODUCT ARE SET FORTH IN THE INFORMATION PACKET THAT SHIPPED WITH THE PRODUCT AND ARE INCORPORATED HEREIN BY THIS REFERENCE. IF YOU ARE UNABLE TO LOCATE THE SOFTWARE LICENSE OR LIMITED WARRANTY, CONTACT YOUR CISCO REPRESENTATIVE FOR A COPY.

The Cisco implementation of TCP header compression is an adaptation of a program developed by the University of California, Berkeley (UCB) as part of UCB's public domain version of the UNIX operating system. All rights reserved. Copyright © 1981, Regents of the University of California.

NOTWITHSTANDING ANY OTHER WARRANTY HEREIN, ALL DOCUMENT FILES AND SOFTWARE OF THESE SUPPLIERS ARE PROVIDED "AS IS" WITH ALL FAULTS. CISCO AND THE ABOVE-NAMED SUPPLIERS DISCLAIM ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE.

IN NO EVENT SHALL CISCO OR ITS SUPPLIERS BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR LOSS OR DAMAGE TO DATA ARISING OUT OF THE USE OR INABILITY TO USE THIS MANUAL, EVEN IF CISCO OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Any Internet Protocol (IP) addresses and phone numbers used in this document are not intended to be actual addresses and phone numbers. Any examples, command display output, network topology diagrams, and other figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses or phone numbers in illustrative content is unintentional and coincidental.

All printed copies and duplicate soft copies of this document are considered uncontrolled. See the current online version for the latest version.

Cisco has more than 200 offices worldwide. Addresses and phone numbers are listed on the Cisco website at www.cisco.com/go/offices.

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: <https://www.cisco.com/c/en/us/about/legal/trademarks.html>. Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1721R)

1 Introduction

Topics:

- [Manage AWS VPCs with Security Cloud Control Firewall Management](#)

Security Cloud Control Firewall Management (formerly Cisco Defense Orchestrator) is a cloud-based platform that unifies and simplifies security policy management across Cisco firewalls and devices. It streamlines policy consistency, offers intuitive and advanced interfaces, and reconciles configuration changes across multiple device managers.

Manage AWS VPCs with Security Cloud Control Firewall Management

An overview of managing AWS VPCs in Security Cloud Control Firewall Management, including onboarding, security groups, shared objects, VPN tunnel monitoring, and change tracking.

test

Use Security Cloud Control Firewall Management to manage AWS VPCs

Security Cloud Control Firewall Management provides a simplified management interface for your Amazon Web Services (AWS) Virtual Private Clouds (VPCs). You can manage your AWS VPCs and their components in the same interface you manage your other devices.

Use Security Cloud Control Firewall Management to perform these tasks:

- [Onboard an AWS VPC](#) on page 61
- [View VPC Details](#)
- [Work with Security Groups](#)
- [Monitor AWS Site-to-Site VPN Connections](#)
- [Monitoring Changes to AWS Devices](#)

These are common AWS features that Security Cloud Control Firewall Management expects to support in the future:

- Showing the relationship of load balancers (elastic, network, and application load balancers) to the security group.
- Showing the relationship of autoscaling groups to a security group.

You cannot manage these aspects of security groups with Security Cloud Control Firewall Management:

- Creating Security Groups.
- Linking Security Groups to instances.
- Assigning Security Groups to load balancers.
- VPC peering.

Onboard AWS VPCs

Start by onboarding the AWS VPC using the onboarding wizard for Security Cloud Control Firewall Management. For more information about onboarding an AWS VPC, refer to [Onboard an AWS VPC](#).

Note that if an AWS VPC contains tags, these tags are imported into Security Cloud Control Firewall Management when you onboard the device. Security Cloud Control Firewall Management represents the tags as **labels**. Unlike security cloud objects or rules, labels are not automatically synchronized to the AWS VPC. For more information about labels and filtering, refer to [Labels and Filtering](#).

Handle AWS VPC login credentials and permissions through the Security Cloud Control Firewall Management console. Without the correct credentials or permissions, Security Cloud Control Firewall Management cannot communicate with the AWS VPC. For more information, refer to [Update AWS VPC connection credentials](#) on page 79 and [Changing Permissions for an IAM User](#).

View AWS VPC details

After onboarding the AWS VPC, you can view its ID, region, security groups, and the rules and objects assigned to those security groups.

Work with Security Groups

Security groups are a collection of rules that govern inbound and outbound network traffic for all AWS instances and other entities associated with the security group. When you onboard an AWS VPC to Security Cloud Control Firewall Management, the security groups are stored in Security Cloud Control Firewall Management as security group objects.

Using Security Cloud Control Firewall Management you can perform these tasks:

- [Create new rules in a security group](#).
- [Check for changes](#), [edit](#), and [delete](#) rules in a security group.

At this time, you cannot create new security groups in a VPC.

For more information, refer to these topics:

- Manage [AWS VPC Security Groups Rules](#)

Share Objects between AWS and other managed devices

Security Cloud Control Firewall Management supports the use of objects in rules. Objects are containers for values. For example, you can create a network object containing the IP address of a resource and assign it a meaningful name. You can then use that object in access rules as part of the source or destination, instead of using the resource's literal IP address. You can also reuse that object in different rules. If you change the value of the object once, any rule that uses that object starts using the new value.

After onboarding an AWS VPC, Security Cloud Control Firewall Management translates AWS concepts into security group objects, network objects, and service objects found in existing security group rules.

Network objects and service objects (also called port objects) can be shared between AWS VPCs and other devices managed using Security Cloud Control Firewall Management. Security group objects are unique to AWS.

Monitor Changes to AWS VPCs and AWS Security Groups

Change Log

The [change log](#) continuously captures configuration changes as they are made in Security Cloud Control Firewall Management. This view includes changes across all supported devices and services. The change log offers these features:

- Side-by-side comparison of changes made to device configuration.
- Plain English labels for all change log entries.
- Records onboarding and removal of devices.
- Detection of policy change conflicts occurring outside of Security Cloud Control Firewall Management.
- Answers who, what, and when during an incident investigation or troubleshooting.

Change Request Management

[Change request management](#) allows you to associate a change request and its business justification, opened in a third-party ticketing system, with an event in the Change Log. Use change request management to create a change request in Security Cloud Control Firewall Management, identify it with a unique name, enter a description of the change, and associate the change request with change log events. You can later search the Change Log for the change request name.

Support for common managerial tasks

Security Cloud Control Firewall Management supports these common management tasks for AWS security groups:

- [Bulk Deploy Device Configurations](#) on page 100
- [Read All Device Configurations](#) on page 98
- [Detecting Out-of-Band Changes](#)

- [Conflict Detection](#)
- [Resolve Configuration Conflicts](#)

2 Get started with Security Cloud Control Firewall Management

Topics:

- [Overview of Cisco Security Cloud Control](#)
- [Overview of Security Cloud Control Firewall Management](#)
- [Provision Security Cloud Control Firewall Management](#)
- [Open Security Cloud Control Firewall Management](#)
- [The Firewall Management dashboard](#)

Provision Firewall management for your organization, open the Firewall application, and review the dashboard sections that help you monitor and manage your environment.

This chapter explains the steps for provisioning the firewall management within Security Cloud Control Firewall Management and explains how to access it. Additionally, it presents an overview of the firewall dashboard.

Overview of Cisco Security Cloud Control

An overview of Cisco Security Cloud Control as a unified platform for onboarding, managing, and navigating integrated Cisco security products.

Security Cloud Control is a security platform that allows you to manage your security products and achieve security outcomes from a single integrated interface.

Integrating security products in the platform is a streamlined experience. After purchasing your subscriptions to Cisco security products, you receive a single email, with a single claim code for all the subscriptions you purchased. Entering the claim code in your new Security Cloud Control organization provisions all your products to Security Cloud Control simultaneously.

Within Security Cloud Control, user and group management occurs at the platform level. Roles are assigned to these users and groups to define their privileges for administering Security Cloud Control and the integrated products.

Navigation between products and tools is intuitive and standardized with a common platform menu and toolbar for all integrated products.

Security Cloud Control provides these additional core services to all integrated products on the platform:

- **Platform Management:** Common services such as managing role-based access control, claiming subscriptions and standardized regional deployment of product instances are provided by Security Cloud Control. By centralizing these functions, Security Cloud Control ensures a consistent user experience in provisioning and managing access across all Cisco security products managed from the platform. Administrators reach these common services from the Platform Management menu in the main navigation bar of Security Cloud Control.
- **AI Assistant:** The Cisco AI Assistant in Security Cloud Control is designed to streamline security operations by providing AI-driven insights, automation, and contextual guidance. It assists administrators in managing security policies, troubleshooting issues, and optimizing configurations across Cisco's security products, including Firewall, Duo, , and Secure Access. By leveraging natural language processing and cross-platform intelligence, the assistant enhances efficiency, accelerates incident response, and simplifies security workflows.
- **Global Search:** The ability to search for values across products in the platform.
- **Shared Objects:** Creating and managing objects that can be shared across devices and policies.
- **Unified documentation portal:** A documentation "Help" experience where all documentation is accessible in one portal.

Products You Can Integrate with Security Cloud Control

From Security Cloud Control, you can manage all of these security products:

- AI Defense
- Security Cloud Control Firewall Management
- Multicloud Defense
- Secure Access

Products You Can Launch from Security Cloud Control

From Security Cloud Control, you can launch these security products. After launch, these products operate as standalone products and you cannot manage them through Security Cloud Control. You can only claim or deactivate the licenses of such products from Security Cloud Control.

In the Security Cloud Control toolbar, click the nine-dot menu  to launch these products:

- Cisco Secure Email Threat Defense

- Cisco Secure Endpoint
- Cisco Duo
- Cisco XDR

Products and Solutions Supported by Security Cloud Control

Learn about products and solutions supported by Security Cloud Control and how they can be integrated or launched from the platform.

Currently, these are the products you can integrate with Security Cloud Control.

AI Defense: AI Defense addresses risks for users and providers of AI. Using network visibility and enforcement points in the Security Cloud Control, AI Defense adds detection and enforcement measures to discover sanctioned and unsanctioned AI workloads, applications, models, data, and user access across your distributed cloud environment. For organizations that develop and deliver AI-powered services, AI Defense detects vulnerabilities in your AI models before they're delivered. For your running AI applications, AI Defense guardrails intercept rapidly evolving threats, including prompt injections, denial of service, and data leakage. See [AI Defense Documentation](#) for more information.

Security Cloud Control Firewall Management: Security Cloud Control Firewall Management (formerly Cisco Defense Orchestrator) is a cloud-based security policy manager that simplifies and unifies policy across your Cisco firewalls and other devices. See [Firewall in Security Cloud Control Documentation](#) for more information.

Multicloud Defense: Multicloud Defense provides a simplified and highly automated approach to multicloud security. This solution allows organizations to manage and secure their multicloud environments using a single SaaS delivered control plane, and centralized or distributed PaaS-delivered data plane architectures. Multicloud Defense provides continuous visibility, unified protection and dynamic policy updates across all major cloud providers, thereby eliminating the need for separate point solutions for solutions for each cloud provider. See [Multicloud Defense Documentation](#) for more information.

Secure Access: Cisco Secure Access is a cloud-based platform that provides multiple levels of defense against internet-based threats. Connect securely to the internet, SaaS apps, and private digital resources from your organization's network or roaming off-network. Using policy rules, configure and enforce security controls on collections of resources, users, and devices. See [Secure Access Documentation](#) for more information. Secure Access subscriptions also include the Identity Intelligence integration via Security Cloud Control at no additional charge—this does not include access to the standalone Identity Intelligence dashboard. For more information, see [Integrate Cisco Identity Intelligence with Secure Access](#).

Cisco XDR (Extended Detection and Response): Cisco XDR, is a cloud-native, extensible security solution designed to simplify security operations and accelerate incident response. It collects and analyzes telemetry from multiple sources—including endpoint, network, firewall, email, identity, and DNS—to detect sophisticated threats with enriched context and threat intelligence from Cisco Talos.

Cisco XDR prioritizes threats based on potential risk and impact, reduces false positives, and provides AI-driven guidance and automation to streamline investigations and remediation. This unified approach enables Security Operations Center (SOC) teams to act faster, improve productivity, and build security resilience by integrating both Cisco and third-party security tools in a multi-vector, multi-vendor environment. See [Cisco XDR Help Center](#) for more information.

Overview of Security Cloud Control Firewall Management

An overview of Security Cloud Control Firewall Management for managing firewall devices, policies, objects, and configuration consistency.

Security Cloud Control Firewall Management, formerly Cisco Defense Orchestrator, simplifies security policy management in distributed environments. It helps you maintain consistent policies across managed firewalls and devices. In Security Cloud Control, **Firewall** appears under **Products**.

Security Cloud Control Firewall Management helps optimize security policies by identifying inconsistencies and providing tools to resolve them. It also supports object sharing, policy sharing, and configuration templates so that you can apply consistent settings across devices.

Security Cloud Control Firewall Management can coexist with local device managers such as Adaptive Security Device Manager (ASDM). It tracks configuration changes that other managers make, then reconciles differences when needed.

The platform includes a guided Day 0 experience to help you onboard Threat Defense devices to your On-Premises Firewall Management Center or to Cloud-Delivered Firewall Management Center. It highlights key features and helps you activate and configure them.

Device onboarding requirements

Before you onboard a device, complete these prerequisites:

- Complete the installation wizard.
- License the device.

After you complete those prerequisites, use the Security Cloud Control Firewall Management onboarding wizard to onboard the device.

Keep these restrictions in mind:

- After you onboard devices to a Security Cloud Control Firewall Management associated with an organization, you cannot migrate those devices to another organization.
- To move devices to a new organization, you must re-onboard them to the new organization.

Cisco Online Privacy Statement

Cisco Systems, Inc. and its subsidiaries (collectively referred to as "Cisco") are committed to protecting your privacy and providing you with a positive experience on Cisco websites and while using Cisco products and services ("Solutions"). Read the [Cisco Online Privacy Statement](#) carefully to get a clear understanding of how Cisco collects, uses, shares, and protects your personal information.

Security Cloud Control Firewall Management Platform Maintenance Schedule

Security Cloud Control Firewall Management receives weekly platform updates every Thursday from 09:00 to 12:00 UTC, delivering new features and quality improvements. Access remains available during maintenance, but avoid deploying configuration changes to ensure uninterrupted policy enforcement and stable device management.

Security Cloud Control Firewall Management updates its platform every week with new features and quality improvements. Updates are made during a 3-hour period according to this schedule:

Day of the week	Time of day (24-hour time, UTC)
Thursday	09:00 UTC - 12:00 UTC

During the Security Cloud Control Firewall Management upgrade period, you can still access your organization and the Cloud-Delivered Firewall Management Center. Additionally, the devices that you have onboarded to Security Cloud Control Firewall Management continue to enforce their security policies.

**Note**

- During the maintenance period of the Security Cloud Control Firewall Management, refrain from creating or deploying configurations to the devices it manages.
- If there is any issue that stops Security Cloud Control Firewall Management from communicating, Cisco addresses that issue in all the affected tenants as quickly as possible, even if it is outside the maintenance window.

Security Cloud Control Firewall Management licenses

Security Cloud Control Firewall Management requires a base subscription and device licenses to manage firewalls and supported devices. Choose term-based plans to match your deployment needs, access software updates, and receive Cisco TAC support. Catalyst SD-WAN doesn't require an additional license; customers using Cisco Digital Network Architecture (DNA) or WAN Essentials license can integrate with Security Cloud Control Firewall Management.

Security Cloud Control Firewall Management requires a base subscription for organization entitlement and device licenses for managing devices. You can buy one or more Security Cloud Control Firewall Management base subscriptions based on the number of tenants you require and device licenses based on the device model number and the quantity. In other words, purchasing the base subscription provides you with a Security Cloud Control Firewall Management organization. For every device you choose to manage using Security Cloud Control Firewall Management, you need separate device licenses.

To onboard and manage devices from Security Cloud Control Firewall Management, you must purchase a base subscription and device-specific, term-based subscriptions based on the devices you want to manage.

Subscriptions

Security Cloud Control Firewall Management subscriptions are term-based:

- **Base:** Offers subscriptions for one, three, and five years, and provides entitlement to access the Security Cloud Control Firewall Management organization and onboard adequately licensed devices.
- **Device License:** Offers subscriptions for one, three, and five years for any supported device you choose to manage. For example, you can choose to manage a Cisco Firepower 1010 device using Security Cloud Control Firewall Management for three years if you purchase a three-year software subscription for the Cisco Firepower 1010 device.

See [Software and Hardware Supported by Security Cloud Control Firewall Management](#) for more information on Cisco security devices that Security Cloud Control Firewall Management supports.

Important

You do not require two separate device licenses to manage a high-availability device pair in Security Cloud Control Firewall Management. If you have a high-availability pair, purchasing one device license is sufficient because Security Cloud Control Firewall Management considers the pair of high-availability devices as one single device.

**Note**

- Catalyst SD-WAN does not require an additional license for integration with Security Cloud Control Firewall Management. Customers with Cisco Digital Network Architecture (DNA) or WAN Essentials licenses can use these existing licenses for integration without needing any other license.

**Note**

You cannot manage Security Cloud Control Firewall Management licensing through the Cisco Smart Licensing portal.

Software Subscription Support

The Security Cloud Control Firewall Management base subscription includes software subscription support that is valid for the term of the subscription and provides access to software updates, major upgrades, and Cisco Technical Assistance Center (TAC) at no extra cost. While software support is selected by default, you can also leverage Security Cloud Control Firewall Management solution support based on your requirement.

More Supported Devices and Licenses

In addition to supporting Secure Firewall Threat Defense devices through the Cloud-Delivered Firewall Management Center, Security Cloud Control also manages these devices:

- Cisco Secure Firewall ASA
- On-premises Cisco Secure Firewall Management Center
- Cisco Meraki Security Appliance
- Cisco IOS devices
- Devices accessible using SSH
- Amazon Web Services (AWS) virtual private cloud (VPC)
- Umbrella Organization

You will need a Security Cloud Control base entitlement license and a license specific to the device you want to manage.

Provision Security Cloud Control Firewall Management

Learn how to provision a Security Cloud Control Firewall Management. Set up your organization, enable Firewall management, claim your subscription, and prepare your environment for secure policy configuration and deployment.

This topic provides the high-level steps required to provision a **Firewall** within Security Cloud Control. Provisioning a firewall involves enabling the firewall feature for your organization, claiming your subscription, and preparing your environment for secure network management. The process ensures that your organization's firewall services are correctly set up and ready for configuration and policy deployment.

Procedure

1. Sign in to Security Cloud Control using Security Cloud Sign on account. Create an account if you do not have one.

To create a Security Cloud Sign On account, you need to provide an email address where the account activation email will be sent. Every Security Cloud Sign On user account is required to use Duo multi-factor authentication (MFA). Duo MFA is included with Security Cloud Sign On account at no charge.

For information on how to create a Security Cloud Sign On account, see [Security Cloud Sign On..](#)

Note

If you already have a Security Cloud Sign on account, see [Signing in to Security Cloud Control](#).

2. Create an organization and set a preferred region. See [Create an Organization](#).

3. (Optional) Enable Firewall management in Security Cloud Control.

If you have a new Security Cloud Control organization and are entitled to Firewall in Security Cloud Control but do not yet have your subscription code, you will be able to enable the Firewall application using this procedure. For more information, see [Enable Security Cloud Control Firewall Management](#).

4. After you receive the subscription code, enter the claim code that you receive in the Security Cloud Control welcome email in order to claim subscriptions for the product instances. For more information, see [Claim your Product Subscription](#). Activate the new product instances.

Note

In case you need to understand the claim subscription process, see the [Overview of the Claim Subscription](#).

5. Add a domain to your product organization. For more information, see [Add and Claim your Domain](#).
 6. Integrate the identity provider with the Security Cloud Sign On account. For more information, see [Integrate an Identity Provider](#).
 7. Create users and groups; assign them roles for precise product management and control. For information on role-based access, see [Role-based Access Control](#).
-

Open Security Cloud Control Firewall Management

Learn how to open the Firewall application from Security Cloud Control Firewall Management after your account and firewall management service are provisioned.

This topic describes the steps to navigate to firewall application in Security Cloud Control

Ensure that you have a Cisco Security Cloud Sign-On account and that the firewall is provisioned within Security Cloud Control for your organization. For more information, see [Provision Security Cloud Control Firewall Management](#)

Procedure

1. Open Security Cloud Control at <https://security.cisco.com/>.
 2. Sign in with your Security Cloud Sign On credentials and multi-factor authentication options that you established when creating your account.
 3. From the Security Cloud Control Home page, click **Firewall**.
-

The Firewall Management dashboard

Learn how to use the Firewall Management dashboard to view tenant-level insights, alerts, actions, inventory, VPN activity, change logs, and security events.

The Firewall dashboard is your central hub for monitoring and managing tenant-level details across various categories. Upon logging in, you can access a customizable dashboard that offers critical insights and actions to optimize security and operational efficiency.

From the left pane, click **Dashboard**.

Customize the dashboard

Make your dashboard fit your specific needs by customizing the visible widgets.

1. On the **Home** page, click **Customize**.
2. Select or deselect the widgets you want to view on the dashboard.
3. You can drag and drop the widgets to arrange them as you prefer.

The dashboard is divided into three main sections: **Top Insights & Alerts**, **Top Actions**, and **Top Information**. Each section provides different categories of insights to help you maintain optimal security and operational control.

Top Insights & Alerts

This section is visible only if **AIOps Insights** is enabled for your tenant. You can view insights related to high traffic caused by elephant flows, RA VPN forecast, access control policy anomalies, high CPU and memory usage, snort CPU and memory usage.

Top Actions

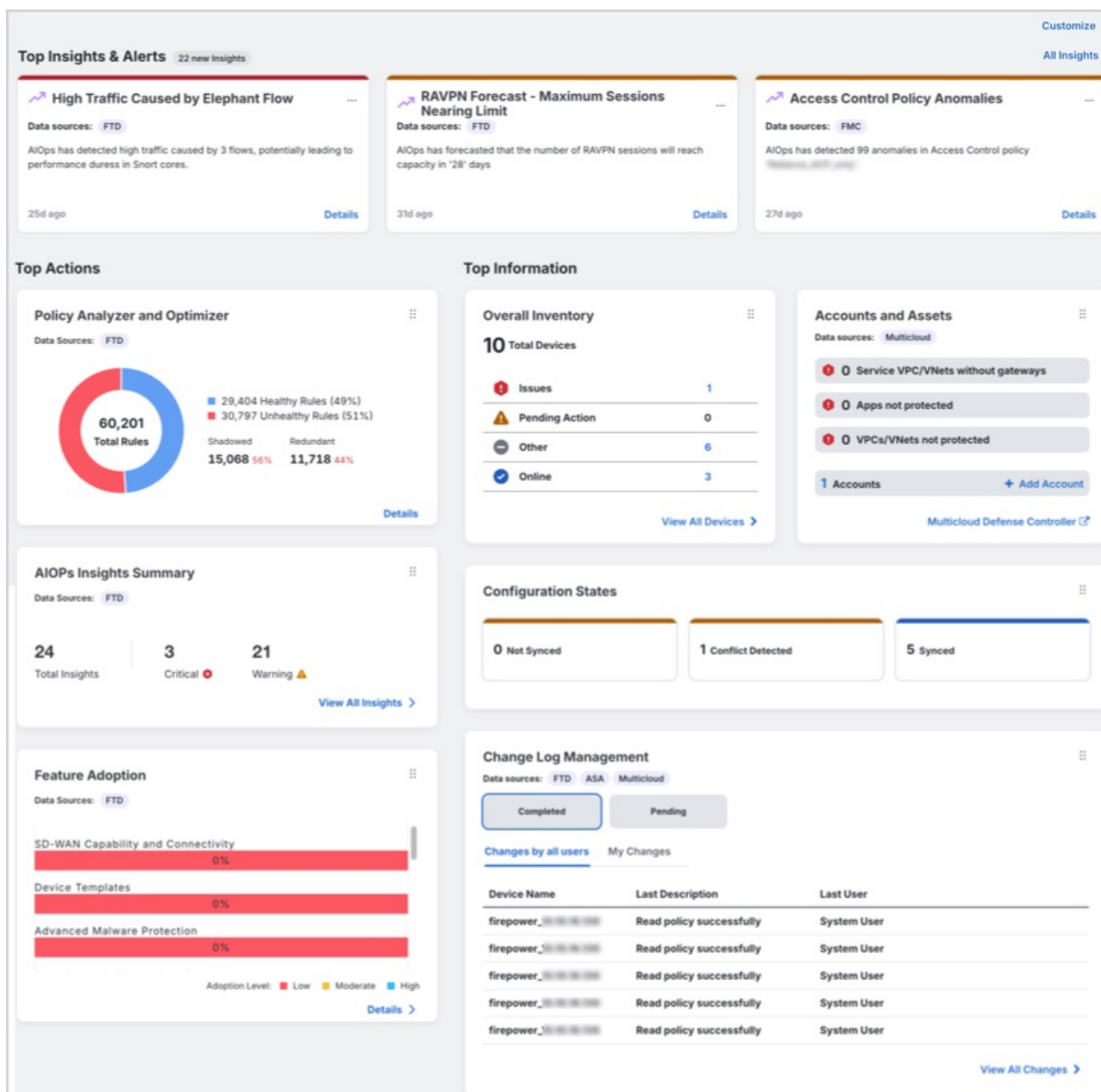
This section is visible only if **AIOps Insights** is enabled for your tenant. If enabled, you can view the following widgets:

- **Policy Analyzer and Optimizer:** Analyzes security policies, detects anomalies, and recommends changes that can improve firewall performance.
For more information, refer to [Policy Analyzer and Optimizer](#).
- **AIOps Insights:** Shows active insights and trends by category, including Configuration, Health & Operations, and Traffic & Capacity.
For more information, refer to [AIOps Insights](#).
- **Feature Adoption:** Shows feature adoption rates so you can assess and improve usage.
For more information, refer to [Assess and Improve Feature Adoption](#).

Top Information

This section provides detailed insights into various tenant-level metrics. Depending on the features that are enabled for your tenant, you can view the following widgets:

- **Configuration States:** Compares device configurations with the configurations maintained by Security Cloud Control so that you can identify inconsistencies or conflicts.
For more information, refer to [Device Management](#).
- **Change Log Management:** Shows completed and pending change logs so that you can track operational changes. The widget displays **Completed** and **Pending** change logs.
For more information, refer to [Change Logs](#).
- **RA VPN Sessions:** Shows Remote Access VPN session activity.
For more information, refer to [RA VPN Sessions](#).
- **Overall Inventory:** Shows the total number of devices and groups them by Issues, Pending Actions, Other, and Online.
For more information, refer to [All Devices](#).
- **Site-to-Site VPN:** Shows the total number of VPN tunnels and the percentage of tunnels that are Active and Idle. The widget displays the total number of VPN tunnels and the percentage that are **Active** and **Idle**.
For more information, refer to [Site-to-site VPN](#).
- **Accounts and Assets:**
 - Helps you to track and manage your multicloud accounts and resources effectively. You can launch the Multicloud Defense Controller from here.
 - Click **+Add Account** to add a new account.
For more information, refer to [Multicloud Defense Controller](#).
- **Top Risky Destinations:** Helps you identify and monitor the top risky destinations that are granted access. The widget lists Applications and URL Categories and allows you to filter data for the last 90, 60, or 30 days. You can filter between Allowed (default) and Blocked traffic.
- **Top Intrusion and Malware Events:** Helps you to monitor and respond to top intrusion and malware events. The widget displays Intrusion Events and Malware Events and allows you to filter data for the last 90, 60, and 30 days. You can filter between Allowed (default) and Blocked events.



Announcements

Click the **Announcements** icon to look at the most recent Security Cloud Control features and updates. Links to related documentation is provided if you need more information on any of the items listed.

3 Manage Firewall administration in Security Cloud Control Firewall Management

Topics:

- [Configure general settings](#)
- [Manage users and groups within Security Cloud Control organization](#)
- [Manage API-Only users for Security Cloud Control Firewall Management](#)
- [View Security Cloud Control notifications](#)
- [View logging settings](#)
- [Understand user roles in Security Cloud Control Firewall Management](#)
- [Filters on security devices, policies, and objects page](#)

Use this chapter if you administer Security Cloud Control Firewall Management for your organization. It explains how to manage organization-wide firewall settings, user access, notifications, logging visibility, and role permissions.

This section provides the following information:

- [General Settings](#)
- [API User Management](#)
- [Logging Settings](#)

What firewall administration settings control

Firewall administration settings apply across the managed organization and can affect multiple devices and users. Some toggle buttons appear only when the related feature is enabled for your managed organization.

Configure general settings

Learn how to configure organization-wide settings that affect multiple managed devices and users in Security Cloud Control Firewall Management.

Use **Administration > General Settings** to manage organization-wide settings that affect multiple managed devices and users in your managed organization.



Note

You do not see toggle buttons for features that are not enabled for your managed organization.

Enable AI Assistant for Firewall

The AI Assistant provides contextual guidance for managing security policies, troubleshooting, and optimizing configurations to enhance operational efficiency. Tenant administrators should manage this setting within General Settings to control access for their entire organization.

AI Assistant is an AI-driven virtual companion that provides contextual guidance and insights to manage security policies, troubleshooting issues, and optimizing configurations. For more information, refer to [Onboard with Cisco AI Assistant](#).

By default, the AI Assistant is enabled. When you enable or disable the AI Assistant, the change affects all users in your managed organization .

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
 2. Choose **Administration > General Settings**.
 3. Turn off the **Enable AI Assistant for Firewall** toggle button to disable the AI Assistant.
-

Enable the option to auto-accept device changes

Enable auto-accept for device changes to streamline configuration management by automatically syncing updates, eliminating the need for manual conflict reviews. This task should be performed when you want to automate change synchronization across your managed devices.

When this setting is enabled, Security Cloud Control Firewall Management automatically accepts changes that users make directly on the device. If you leave this setting disabled, or disable it later, you must review each device conflict before you accept it.

Follow these steps to enable automatic acceptance of device changes:

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
 2. Choose **Administration > General Settings**.
 3. Turn on the **Enable the option to auto-accept device changes** toggle button.
-

Enable Multicloud Defense SCC features

Use the Enable Multicloud Defense SCC features option to integrate specific platform capabilities directly into your Security Cloud Control Firewall Management environment. Perform this task whenever you need to leverage advanced Multicloud Defense functionalities within your existing security management workflow.

When you enable this feature, you can configure site-to-site IPsec VPN tunnels between Multicloud Defense and your ASA and Firewall Threat Defense devices that are managed by Security Cloud Control Firewall Management. After you enable the feature, you can establish and deploy VPN configurations between these managed devices to improve secure connectivity across your multicloud infrastructure.

Follow these steps to enable Multicloud Defense Security Cloud Control Firewall Management features:

Procedure

1. Choose **Settings > General Settings**.
 2. Turn on the **Enable Multicloud Defense SCC features** toggle button.
-

Enable object sharing with Multicloud Defense

Use the Enable object sharing with Multicloud Defense option to synchronize network objects seamlessly, ensuring policy consistency across platforms. This task should be performed when you need to integrate security objects between Security Cloud Control Firewall Management and Multicloud Defense for improved operational efficiency.

Enable this setting to share Multicloud Defense network objects from Security Cloud Control Firewall Management.

Follow these steps to enable object sharing with Multicloud Defense:

Procedure

1. Choose **Administration > General Settings**.
 2. Turn on the **Enable object sharing with Multicloud Defense** toggle button.
-

Enable ASA health monitoring

Enable ASA Health Monitoring to collect and analyze device health data within the dashboard. You must perform this task at the tenant level to ensure comprehensive monitoring of ASA devices managed by the system.

You must enable Device Health Metrics at the managed organization level. For ASA devices managed by Secure Device Connector, you must also enable the feature at the individual device level. These steps ensure health data is collected and made available for analysis within the dashboard.

You must have the **Super Admin** user role to enable this feature.

Follow these steps to enable ASA health monitoring for the managed organization:

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. Choose **Administration > General Settings**.
3. Turn on the **Enable ASA Health Monitoring** toggle button to enable the Device Health Metrics feature for your managed organization.

Device Type Considerations

- For ASA devices managed by Cloud Device Gateway (CDG), health metrics are enabled when the **Enable Device Health Metrics** toggle in **General Settings** is enabled.
- For ASA devices managed by Secure Device Connector (SDC), manually enable health metrics for each device:
 - a. Choose **Security Devices**.
 - b. Select the SDC-managed ASA device.
 - c. In the **Device Actions** pane, choose **Opt-in to Health Metrics**.
If the device is already opted in, you will see the option to **Opt-out of Health Metrics** instead.



Note

Each SDC can support health metrics collection for up to 50 ASA devices.

Set the default conflict detection interval

Configure the default conflict detection interval to determine how often the system polls onboarded devices for configuration changes. This task should be performed whenever you need to adjust the frequency of automated monitoring across your managed organization to optimize system performance and visibility.

This interval determines the frequency at which Security Cloud Control polls onboarded devices for changes. The selection applies to all devices managed in this tenant. You can change this option at any time.



Note

This selection can be overridden via the **Conflict Detection** option available from the **Security Devices** page after you have selected one or multiple devices.

Follow these steps to set the default conflict detection interval:

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. Choose **Administration > General Settings**.
3. From the **Default conflict detection interval** drop-down list, select a time value.

Enable scheduled automatic deployments

Enable the option to schedule automatic deployments to conveniently plan single or recurring updates for your devices. Use this task to automate deployment workflows and ensure updates occur at optimal times.

Enabling the option to schedule automatic deployments allows you to schedule future deployments at a date and time when it is convenient. Once you enable this option, you can schedule a single automatic deployment or set up recurring automatic deployments. To schedule an automatic deployment, see [Schedule an Automatic Deployment](#) on page 101.

Changes you make on Security Cloud Control for a device are not automatically deployed to the device if it has pending

changes . If a device is not in the **Synced** state, such as **Conflict Detected** or **Not Synced**, scheduled deployments are not executed. The jobs page lists any instance where a scheduled deployment fails.

If you turn off **Enable the Option to Schedule Automatic Deployments**, all scheduled deployments are deleted.

Important

If you use Security Cloud Control to create more than one scheduled deployment for a device, the new deployment overwrites the existing deployment. If you create more than one scheduled deployment for a device using the API, you **must** delete the existing deployment before scheduling the new deployment.

Follow these steps to enable scheduled automatic deployments:

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
 2. Choose **Administration > General Settings**.
 3. Turn on the **Enable the option to schedule automatic deployments** toggle button to enable it.
-

Manage web analytics

You can enable or disable web analytics to share anonymous product usage data with Cisco, helping to improve the platform's features and performance. Adjust your privacy preferences regarding the collection of anonymous usage information by completing this task as needed.

Web analytics provides anonymous product usage information to Cisco based on page hits. The information includes pages viewed, the time spent on a page, browser versions, product version, and device hostname. This data helps Cisco determine feature usage patterns and improve the product. All usage data is anonymous and no sensitive data is transmitted.

Web analytics is enabled by default. To disable web analytics or re-enable it in the future, complete these steps:

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
 2. Choose **Administration > General Settings**.
 3. Turn on the **Web Analytics** toggle button to enable it.
-

Set the FDM Default recurring backup schedule

Configure the FDM default recurring backup schedule to automate data protection and standardize backup intervals across all managed FDM devices. Perform this task when you need to set up or update consistent backup timing for reliable data recovery.

Use this setting to configure a default recurring backup schedule for your devices. When you schedule a backup for a device, you can use the default values or customize them. If you change the default recurring backup schedule, existing scheduled backups keep their current recurring settings.

Follow these steps to set the FDM default recurring backup schedule:

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
 2. Choose **Administration > General Settings**.
 3. Under the **FDM Default Recurring Backup Schedule** section, from the **Frequency** drop-down, select daily, weekly, or monthly backup.
 4. Select the time of day for the backup. Enter the time using the 24-hour format in Coordinated Universal Time (UTC); for example, 22:00 (10:00 PM UTC).
 5. For weekly backups, select the days of the week for the backup. For monthly backups, select the **Days of Month** field and add the days when the backup should run. If you enter day 31 for a month with fewer than 31 days, the backup will not run for that month. Enter a name and description for the backup schedule.
 6. Click **Save**.
-

Auto onboard On-Prem FMCs from Cisco Security Cloud

Learn how to disable the auto-onboarding of on-premises Firewall Management Centers from your Cisco Security Cloud to your Security Cloud Control tenant, ensuring only authorized devices are added. This procedure is available to Super Admins and Admins.

Disabling the auto-onboarding functionality stops new on-premises Firewall Management Centers from being automatically added from your Cisco Security Cloud tenant.



Note

Only a Super Admin or Admin can enable or disable this functionality on Security Cloud Control.

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. Choose **Administration > General Settings**.
3. Turn off the **Auto onboard On-Prem FMCs from Cisco Security Cloud** toggle button to disable the auto-onboarding of on-premises Firewall Management Center.
4. Click **Confirm**.

Enable event data sharing with Talos

Manage Talos event data sharing to contribute to Cisco's threat intelligence and enhance your organization's protection against new security threats. You can opt in or out of anonymous event data sharing at any time depending on your organization's policy.

Share malicious event data from your device with Talos, Cisco's threat intelligence organization. Sharing event data allows Talos to improve threat detection and response capabilities, provide more targeted security updates for your network, and deliver better protection against emerging threats.

For more information about Talos, see the [Cisco Talos](#) product page.

Enabling the **Enable event data sharing with Talos** toggle button does not automatically activate the **Talos Threat Hunting Telemetry** feature in Cloud-Delivered Firewall Management Center. For the best results with this feature, also enable the **Talos Threat Hunting Telemetry** in Cloud-Delivered Firewall Management Center. For more information, see [Set Intrusion Policy Preferences](#).

Sharing event data with Talos is enabled by default. To opt out, follow this procedure:

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. Choose **Administration > General Settings**.
3. Turn off the **Enable event data sharing with Talos** toggle button to disable this setting.

Note

Sharing event data enables Talos to provide relevant security insights for your network. Disabling this setting might limit your ability to fully leverage Talos's capabilities and could affect your network's defense against evolving threats.

View firewall management instance details

Tenant details are helpful if you need to contact the Cisco Technical Assistance Center (TAC). Examples include tenant ID, enterprise ID, Secure Services Exchange tenant ID, and tenant name.

Firewall Management Instance Details are helpful if you need to contact the Cisco Technical Assistance Center (TAC). You can copy these tenant details by clicking the copy icon.

- **Firewall Management Instance Name:** The display name of the firewall management instance.
- **Firewall Management Instance ID:** The system-generated unique identifier for the firewall management instance in Cisco Security Cloud Control.
- **Secure Services Exchange ID:** The unique identifier for the firewall management instance in the Secure Services Exchange environment. Cisco uses this value for service integration and backend correlation across cloud services.
- **Security Cloud Control Organization ID:** The unique identifier of the Security Cloud Control organization associated with the firewall management instance.

Use the Security Cloud Control Firewall Management platform navigator

The platform navigator is a nine-block launcher that provides users with quick, centralized access to various Cisco networking and security applications. This tool allows users to seamlessly transition between integrated Cisco platforms to manage their infrastructure and security operations.

The platform navigator is a nine-block applications cross-launcher () that appears on the top-right corner of Security Cloud Control. You can readily cross-launch to these Cisco networking and security applications:

Networking applications

- **Catalyst:** Cisco Catalyst products include a wide variety of network switches, wireless controllers, wireless access points, and edge platforms and routers, supporting enterprise-class business needs to heavy-duty and rugged networking environments.
- **Intersight:** Cisco Intersight is a cloud operations platform that consists of optional, modular capabilities of advanced infrastructure, workload optimization, and Kubernetes services. Cisco Intersight infrastructure services include the deployment, monitoring, management, and support of your physical and virtual infrastructure. It supports Cisco Unified Computing System (Cisco UCS), Cisco HyperFlex hyperconverged infrastructure (HCI), and other third-party Intersight-connected targets.
- **IoT Operations Dashboard:** Cisco IoT Operations Dashboard is a cloud-based IoT services platform that empowers operations teams to securely connect, maintain, and gain insights from industrial networking devices and connected industrial assets at massive scale. With one comprehensive view of all their connected industrial assets, operations teams can uncover valuable insights that help them streamline operations and drive business continuity.
- **Meraki:** Cisco Meraki is an IT and IoT cloud-managed platform that provides a centralized management platform for Cisco Meraki devices.
- **Spaces:** Cisco Spaces is a cloud-based location services platform through which organizations can gain insights into how people and things move throughout their physical spaces. With these insights, they can deliver contextual engagements that are valuable and relevant. Besides looking at where people go, organizations can also drive operational efficiencies by monitoring the location, movement, and utilization of assets.
- **ThousandEyes:** Cisco ThousandEyes is a cloud service suite that helps monitor and measure the availability and performance of web applications, services, and networks. It provides end-to-end visibility from any user to any application over any network, enabling enterprises to swiftly get to the source of issues, resolve them faster, and manage performance effectively.
- **Workflows:** Cisco Workflows is a cloud-hosted automation application that is part of the larger Cisco Networking Cloud vision. It provides an entitlement to cross-domain automation capabilities for Cisco customers. It streamlines repetitive and error-prone tasks across both Cisco and third-party applications using custom and premade automation templates, as well as various adapter options that can be provided by Cisco or built independently, reaching targets in the cloud or on-premises.

Security applications

- **Duo Security:** Cisco Duo is a user-centric zero-trust security platform with two-factor authentication to protect access to sensitive data for all users, devices, and applications. It offers features such as adaptive policies, single sign-on (SSO), and advanced endpoint visibility, making it a comprehensive solution for securing remote access and maintaining business continuity.
- **Secure Access:** Cisco Secure Access simplifies IT operations through a single, cloud-managed console, unified client, centralized policy creation, and aggregated reporting. Extensive security capabilities converged in one solution (ZTNA, SWG, CASB, FWaaS, DNS security, RBI, and more) mitigate security risk by applying zero trust principles and enforcing granular security policies. Market leading Talos threat intelligence fuels unmatched threat blocking to mitigate risk and speed investigations.
- **Secure Endpoint:** Cisco Secure Endpoint, formerly known as Cisco AMP for Endpoints, is a cloud-managed endpoint security solution designed to prevent breaches and rapidly detect, contain, and remediate threats. It instantly checks your files against a cloud-based scanner with advanced tracking features. These features enable security analysts to identify and isolate initial outbreak sources. The solution also provides retrospective quarantine for files found to be malicious.
- **Cisco Security Provisioning and Administration:** Cisco Security Provisioning and Administration is a web application that provides centralized management of Cisco Secure product instances, user identity, and user access management across Cisco Security Cloud. Security Cloud Control administrators can create new Security Cloud enterprises, manage users in an enterprise, claim domains, and integrate their organization's SSO identity provider, among other tasks.
- **XDR:** Cisco Extended Detection and Response (XDR) is a cloud-based solution designed to simplify security operations and empower security teams to detect, prioritize, and respond to sophisticated threats. By integrating both Cisco and third-party security solutions into a unified platform, Cisco XDR offers a comprehensive approach to threat management. Integrated with the threat intelligence provided by Talos, Cisco XDR enriches incident data with additional context and asset insights, reducing false positives and enhancing overall threat detection, response, and forensic capabilities.

Manage users and groups within Security Cloud Control organization

Learn how to manage organization users and groups through centralized access management in Security Cloud Control.

The purpose of this task is to provide centralized and automated management of user access across Cisco security products through role-based access control (RBAC).

Security Cloud Control supports role-based access control (RBAC) to automate access management across the organization. A role defines the level of user access to functions within a product. With Security Cloud Control, you can centralize the management of user roles within an organization, allowing organization users to switch seamlessly between products without the need to log in repeatedly.

Additionally, you can [create API-only users](#) for Security Cloud Control Firewall Management. API-only users allow systems to interact with Security Cloud Control using APIs, eliminating the need for a user interface.

Procedure

1. From the Security Cloud Control Home page, click **Platform Management**.
2. Choose **Platform Management > Access Management > Administrator Access**

For more information, see [Managing users](#) in the Security Cloud Control platform services documentation.

Manage API-Only users for Security Cloud Control Firewall Management

Learn how to create API-only users and generate API tokens for programmatic access to Security Cloud Control Firewall Management.

Developers use Security Cloud Control Firewall Management API tokens when making Security Cloud Control Firewall Management REST API calls. The API token must be included in the REST API authorization header for a successful call. API-only users can generate API tokens. Regular users cannot create API tokens for themselves or others.

The purpose of creating an API-only user in Security Cloud Control Firewall Management is to enable secure, programmatic access to the system using API tokens.

An API-only user role allows a user to interact with Security Cloud Control Firewall Management using APIs, eliminating the need for a user interface. API-only users cannot log in to the Security Cloud Control interface directly. The role benefits organizations -only user role is useful in organizations that need automated processes and integrations.

Only API-only users can generate API tokens; regular users cannot create API tokens for themselves or others.

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. In the left pane, choose **Administration > API User Management**.
3. Click the **Add a new user** () icon to add a new user to your tenant.
4. In the **Username** field, enter a name for the API-only user.
5. From the **Role** drop-down list, choose a [role](#) for the API-only user and click **Add**.
6. In the **Token** column for the new API Only user, click **Generate API Token** to obtain an API token. Save the token in a secure location in accordance with your enterprise's best practices for maintaining sensitive data.



Note

Click edit to change the role of the existing API-only user.

View Security Cloud Control notifications

Learn how to view, search, dismiss, and review Security Cloud Control notifications for device events, alerts, and reports.



Click the notifications icon to view the most recent alerts that have occurred or affected the devices that you onboarded to your tenant. The settings that you choose on the Notification Settings page determine the notification types that appear in Security Cloud Control Firewall Management.

This drop-down page is grouped into three tabs: Overview, All, and Dismissed.

Overview tab

The **Overview** tab displays a combination of the most recent high-priority alerts and events to which you are subscribed. High priority events are the following:

- Deployment Failed
- Backup Failed
- Upgrade Failed
- Migrate FTD to Cloud-Delivered Firewall Management Center Failed
- Device went offline
- Device HA state changed
- Device certificates expiring

You can configure which alerts you want to receive by clicking the Notification Settings in the Notifications window or by selecting **UserID > User Preferences** page. The User ID button in the upper right corner of the dashboard.

All tab

Displays all notifications, regardless of priority, including email subscription notifications and all high-priority items.

Dismissed tab

Displays notifications that you dismissed. You can dismiss individual notifications by clicking the "x" of the notification.

Opting to **Dismiss** notifications from the drop-down menu dismisses notifications from **both** the "Overview" and "All" tabs. They will remain in the **Dismiss** tab for 30 days, after which they will be removed from Security Cloud Control.

Search notifications

When viewing the notifications drop-down window, for any of the tabs mentioned above, you can use the search bar at the top of the drop-down to query for key words or alerts.

View Notification Preferences

View your personal preferences in the **Notification Preferences** page. From this page you can configure the following "**Notify Me in Security Cloud Control When**" alerts and enable email notifications to receive any of the alerts . See [Notification Preferences](#).

Manage user notification preferences

Security Cloud Control Firewall Management generates notifications whenever a device linked to your tenant encounters a specific event. This includes actions taken by the device, expiring or expired device certificates, or the start, completion, or failure of a report generation task. By default, these notifications are enabled and visible to all users associated with the tenant, regardless of their role. You have the option to customize your personal notification preferences to display only the alerts that interest you. These preferences are unique to you and do not impact other users connected to the tenant.



Note

Changes made to the notifications listed below are automatically updated in real time and do not require deployment.

Device workflow alerts

- **Deployments** - This action does not include integration instances for SSH or IOS devices.
- **Backups** - This action is only applicable for FDM-managed devices.

- **Upgrades** - This action is only applicable for ASA and FDM-managed devices.
- **Migrate Firewall Threat Defense to cloud** - This action is applicable when changing the Firewall Threat Defense device manager from Firewall Management Center to Security Cloud Control.

Device event alerts

- **Went offline** - Applies to all devices associated with your tenant.
- **Back online** - Applies to all the devices associated with your tenant.
- **Conflict detected** - Applies to all the devices associated with your tenant.
- **HA state changed** - Indicates the device within an HA or failover pair, the current state, and the state it changed from. This action applies to all HA and failover configurations associated with your tenant.
- **Site-to-Site session disconnected** - Applies to all site-to-site VPN configurations configured in your tenant.

Event search report alerts

- **Report generation started:** Notifies you when a report generation task starts. This applies to both immediate and scheduled search reports.
- **Report generation completed:** Notifies you when a report generation task ends. This applies to both immediate and scheduled search reports.
- **Report generation failed:** Notifies you when a report generation task fails. This applies to both immediate and scheduled search reports. Check the parameters or query and try again.

Application insights alerts

- **Application available:** Notifies you when a monitored application becomes available.
- **Application unavailable:** Notifies you when a monitored application becomes unavailable.

Opt out of notifications

By default, all notification types are enabled. To stop receiving a notification type, clear that notification and click **Save**.

Manage email notifications

Enable the 'Email notifications' toggle button to receive email for the alerts that you select.

By default, **Use Security Cloud Control notification settings above** is selected. When this option is selected, email notifications match the same notifications and events that you selected in the **Notify Me in Security Cloud Control When** sections.

If you want email notifications for only some alerts, clear **Use Security Cloud Control notification settings above**, select the alert types that you want to receive by email, and then click **Save**.

View logging settings

Learn how to review tenant logging usage, monthly limits, reset timing, historical usage, and storage options.

Use **Logging Settings** to check current logging usage for your tenant.

The page shows:

- Your monthly event logging limit.

- The number of days until the limit resets.
- Stored logging usage, which represents the compressed event data that the Cisco cloud received.

Click **View Historical Usage** to review the logs that your tenant received during the last 12 months.

The page also includes links that you can use to request additional storage.

Understand user roles in Security Cloud Control Firewall Management

Learn how user roles define permissions for each Security Cloud Control Firewall Management organization.

Security Cloud Control Firewall Management assigns roles per user and per organization. If a user has access to more than one tenant, that user can have the same user ID but different roles on different organizations. For example, a user can have the `Read-Only` role on one organization and the `Super Admin` role on another.

When the interface or documentation refers to a `Read-Only` user, `Admin` user, or `Super Admin` user, it describes that user's permission level on a specific organization.

Read-only role

A user assigned the Read-Only role sees this blue banner on every page:

Read Only User. You cannot make configuration changes.

Users with the `Read-Only` role can:

- View any page or any setting in Security Cloud Control.
- Search and filter the contents of any page.
- Compare device configurations, view the change log, and see VPN mappings.
- View every warning regarding any setting or object on any page.
- Generate, refresh, and revoke their own API tokens. Note that if a read-only user revokes their own token, they cannot recreate it.
- Contact support through our interface and can export a change log.

Users with the `Read-Only` role cannot:

- Create, update, configure, or delete anything on any page.
- Onboard devices.
- Step-through the tasks needed to create something like an object or a policy, but not be able to save it.
- Create Security Cloud Control user records.
- Change user role.
- Attach or detach access rules to a policy.

Edit-Only role

Users with the Edit-Only role can:

- Edit and save device configurations, including but not limited to objects, policies, rulesets, interfaces, VPN, etc.
- Allow configuration changes that are made through the **Read Configuration** action.
- Utilize the Change Request Management action.

Users with the Edit-Only role cannot:

- Deploy changes to a device or to multiple devices.
- Discard staged changes or changes that are detected through OOB.
- Upload AnyConnect Packages, or configure these settings.
- Schedule or manually start image upgrades for devices.
- Schedule or manually start a security database upgrade.
- Manually switch between Snort 2 and Snort 3 versions.
- Create a template.
- Change the existing OOB Change settings.
- Edit System Management settings.
- Onboard devices.
- Delete devices.
- Delete VPN sessions or user sessions.
- Create Security Cloud Control user records.
- Change user role.

Deploy-Only role

Users with the Deploy-Only role can:

- Deploy staged changes to a device, or to multiple devices.
- Revert or restore configuration changes for ASA devices.
- Schedule or manually start image upgrades for devices.
- Schedule or manually start a security database upgrade.
- Utilize the Change Request Management action.

Users with the `Deploy-Only` role cannot:

- Manually switch between Snort 2 and Snort 3 versions.
- Create a template.
- Change the existing OOB Change settings.
- Edit System Management settings.
- Onboard devices.
- Delete devices.
- Delete VPN sessions or user sessions.
- Create, update, configure, or delete anything on any page.
- Onboard devices.
- Step-through the tasks needed to create something like an object or a policy, but not be able to save it.
- Create Security Cloud Control user records.

- Change user role.
- Attach or detach access rules to a policy.

VPN Sessions Manager role

The `VPN Sessions Manager` role is intended for administrators who monitor remote access VPN connections, not site-to-site VPN connections.

Users with the VPN Sessions Manager role can:

- View any page or any setting in Security Cloud Control.
- Search and filter the contents of any page.
- Compare device configurations, view the change log, and see RA VPN mappings.
- View every warning regarding any setting or object on any page.
- Generate, refresh, and revoke their own API tokens. Note that if a VPN Sessions Manager user revokes their own token, they cannot recreate it.
- Contact support through our interface and export a change log.
- Terminate existing RA VPN sessions.

Users with the VPN Sessions Manager role cannot:

- Create, update, configure, or delete anything on any page.
- Onboard devices.
- Step-through the tasks needed to create something like an object or a policy, but not be able to save it.
- Create Security Cloud Control user records.
- Change user role.
- Attach or detach access rules to a policy.

Admin role

Users with the `Admin` role have complete access to most areas of Security Cloud Control Firewall Management.

- Create, read, update, and delete any object or policy in Security Cloud Control Firewall Management and configure any setting.
- Onboard devices.
- View any page or any setting in Security Cloud Control.
- Search and filter the contents of any page.
- Compare device configurations, view the change log, and see VPN mappings.
- View every warning regarding any setting or object on any page.
- Generate, refresh, and revoke their own API tokens. If their token is revoked, they can contact support through our interface and can export a change log.

Admin users **cannot** do the following:

- Create Security Cloud Control user records.
- Change user role.

Super Admin role

Users with the Super Admin role have complete access to all areas of Security Cloud Control Firewall Management.

Users with the Super Admin role can:

- Change user roles.
- Create user records.
- Create, read, update, and delete any object or policy in Security Cloud Control Firewall Management and configure any setting.
- Onboard devices.
- View any page or any setting in Security Cloud Control Firewall Management.
- Search and filter the contents of any page.
- Compare device configurations, view the change log, and see VPN mappings.
- View every warning regarding any setting or object on any page.
- Generate, refresh, and revoke their own API tokens. If their token is revoked, they can
- Contact support through our interface and can export a change log.

Filters on security devices, policies, and objects page

Learn how to filter devices, policies, and objects by attributes such as device type, status, version, connector, management application, and labels.

Use filters on the **Security Devices**, **Policies**, and **Objects** pages to find devices and objects. To filter, select the filter icon in the left pane.

On the **Security Devices** page, the filter panel lets you filter devices by criteria such as device type, hardware version, software version, Snort version, configuration status, connection state, conflict detection, Secure Device Connector, and labels. You can apply filters within the selected device type tab.

When the **FTD** tab is open, the filter panel also lets you filter FTD devices by the management application that Security Cloud Control uses to access them.

To filter, click  in the left-hand pane of the Security Devices, Policies, and Objects tabs.



Note

When the **FTD** tab is opened, the filter pane provides filters to show FDM-managed devices based on the management application through which the devices are accessed from Security Cloud Control.

- FDM: Devices managed using FTD API or Firewall Device Manager.
- FMC-FTD: Devices managed using Firepower Management Center.
- FTD: Devices managed using FTD Management.

4 Deploy and manage Secure Connectors for device onboarding

Topics:

- [Introduction to Secure Connectors](#)

Introduction to Secure Connectors

Learn how secure connectors support communication between Security Cloud Control Firewall Management and managed resources in your network or cloud environment.

A secure connector is a connector instance that runs in your network or supported cloud environment and provides a secure communication path between Security Cloud Control Firewall Management and managed resources. Secure connectors help Security Cloud Control Firewall Management manage devices that are not directly reachable from the internet and support event forwarding for logging and analytics workflows.

Use the **Secure Connectors** page to view, deploy, and manage connector instances for your tenant.

Secure connector types

The **Secure Connectors** page can include these connector types.

- [Secure Device Connector](#) (SDC): Provides a secure communication path between Security Cloud Control Firewall Management and supported managed devices.
- [Secure Event Connectors](#) (SEC): Receives events from supported devices and forwards the events to the Cisco cloud for logging and analytics.

About Secure Device Connector

A Secure Device Connector (SDC) is an intelligent proxy that lets Cisco devices communicate with Security Cloud Control Firewall Management when the devices are not directly reachable from the internet. When you onboard a device by using device credentials, you can deploy an SDC in your network to proxy communication between the device and Security Cloud Control Firewall Management. If the device is directly reachable from the internet, you can allow direct communication through the device's outside interface instead of using an SDC. The SDC performs these functions:

- Monitors Security Cloud Control Firewall Management for commands and messages for your managed devices.
- Executes commands on behalf of Security Cloud Control Firewall Management.
- Relays messages to your managed devices.
- Returns device responses.

Communication between the SDC and Security Cloud Control Firewall Management uses HTTPS with TLS 1.3 and AES-128-GCM. Credentials for onboarded devices and services are encrypted from the browser to the SDC and are encrypted at rest by using AES-128-GCM. Only the SDC has access to those credentials.

A user with the Super Administrator role is required to create a Secure Device Connector or a Secure Event Connector (SEC).

You can onboard these devices to Secure Device Connector through an SDC:

- Secure Firewall ASA
- On-Premises Firewall Management Center using credentials method
- Meraki MX devices
- Generic SSH devices
- Cisco IOS devices

Secure Firewall Threat Defense devices that are managed by Cloud-Delivered Firewall Management Center do not require an SDC and do not support onboarding through proxies. Ensure that these devices have proper DNS settings and outbound internet connectivity so they can connect to Cloud-Delivered Firewall Management Center.

See [Allow inbound access for direct cloud connectivity](#) on page 36 for information explaining how to allow communication between an SDC and Security Cloud Control.

For more information, refer to [Deploy a VM for Running the Secure Device Connector and Secure Event Connector](#) on page 37.

Related Information:

- [Connect Cisco Defense Orchestrator to the Secure Device Connector](#)
- [Update a Secure Device Connector manually](#) on page 54
- [Remove a Secure Device Connector](#) on page 55

Plan device connectivity

Security Cloud Control Firewall Management connects to managed devices either through the cloud connector or through an SDC.

Table 1:

Connection method	Use when	Required network access
Direct cloud connector	The device is directly reachable from the internet.	Allow inbound access from the Security Cloud Control Firewall Management IP addresses for your cloud region on port 443, or on the port that you use for device management.
SDC	The device is not directly reachable from the internet, or the source explicitly requires an on-premises SDC.	Allow full inbound access from the SDC host on port 443, or on the port that you use for device management. Ensure that the SDC VM can reach the device management interface.

An FDM-managed device can be onboarded to Security Cloud Control Firewall Management by using device credentials, a registration key, or its serial number whether it is directly accessible from the internet. If the device does not have direct internet access, but it resides on a network that does, the Security Services Exchange connector that is delivered as part of the device can reach the Security Services Exchange cloud and allow the FDM-managed device to be onboarded.

The source explicitly states that you need an on-premises SDC to onboard the following:

- An ASA device that is not accessible from the cloud
- An FDM-managed device that is not accessible from the cloud when you use the credentials onboarding method
- A Cisco IOS device
- A device with SSH access.

All other devices and services do not require an on-premises SDC because Security Cloud Control Firewall Management connects by using its cloud connector.

Allow inbound access for direct cloud connectivity

Security Cloud Control connects to the devices that it manages through the cloud connector or through an (SDC).

When you connect Security Cloud Control Firewall Management directly to a device through the cloud connector, allow inbound access on port 443, or on the port that you have configured for device management, from the IP addresses for your region.

Table 2:

Region	URL	Allow inbound access from
Asia-Pacific-Japan (APJ)	https://security.cisco.com	54.199.195.111, 52.199.243.0
Australia (AUS)	https://security.cisco.com	13.55.73.159, 13.238.226.118
Europe, Middle East, and Africa (EMEA)	https://security.cisco.com	35.157.12.126, 35.157.12.15
India (IN)	https://security.cisco.com	35.154.115.175 13.201.213.99
United States (US)	https://security.cisco.com	52.34.234.2 52.36.70.147

Plan SDC capacity and host requirements

Each Security Cloud Control Firewall Management organization can have an unlimited number of SDCs. An SDC belongs to one organization only and is not shared across organizations. For deployment planning, one SDC is expected to support approximately 500 devices. Actual capacity depends on the features enabled on those devices and the size of their configuration files.

Deploying more than one SDC lets you:

- Scale device management without performance degradation.
- Place SDCs in isolated network segments while keeping the devices in the same Security Cloud Control Firewall Management organization.
- Run multiple SDCs on one host by following the bootstrap procedure for each additional SDC.

The first SDC name includes the tenant name and the number 1. Each additional SDC is numbered in sequence.

Deploy a VM for Running the Secure Device Connector and Secure Event Connector

When using device credentials to connect Security Cloud Control to a device, it is a best practice to download and deploy an SDC in your network to manage the communication between Security Cloud Control and the device. Typically, these devices are nonperimeter based and do not have a public IP address, or have an open port to the outside interface.

The SDC monitors Security Cloud Control for commands that need to be executed on your managed devices, and messages that need to be sent to your managed devices. The SDC executes the commands on behalf of Security Cloud Control, sends messages to Security Cloud Control on behalf of the managed devices, and returns replies from the managed devices to Security Cloud Control.

The number of devices a single SDC can manage depends on the features that are implemented on those devices and the size of their configuration files. To plan your deployment, however, we expect one SDC to support approximately 500 devices. For more information, see [Using Multiple SDCs on a Single Security Cloud Control Tenant](#).

This procedure describes how to install an SDC in your network, using Security Cloud Control's VM image. This is the recommended and most reliable way to create an SDC.

Before you begin

- Security Cloud Control requires strict certificate checking and does not support Web or Content Proxy inspection between the Secure Device Connector (SDC) and the internet. If using a proxy server, disable inspection for traffic between the SDC and Security Cloud Control.
- The SDC must have full outbound access to the internet on TCP port 443, or the port you have configured for device management.
- The devices that are managed by Security Cloud Control must allow inbound traffic from the SDC VM's IP address.
- Review Connect [Allow inbound access for direct cloud connectivity](#) on page 36 to the Secure Device Connector to ensure proper network access.
- If you are using a proxy on your network, ensure that you have all the required details before running the host setup command. Most of the issues are related to incorrect proxy configurations. Important details are:
 - The IP/hostname of your proxy.
 - Whether or not your proxy intercepts traffic and reencrypts it using its own cert. This detail is the cause of most of the complications with the SDC VM setup.
 - If your proxy does intercept traffic, have the root certificate ready when configuring the VM. You can paste it in when prompted so that the host and the SDC know to trust the certificates generated by your proxy.
 - If your proxy does not intercept traffic, then nothing else is required here.
 - The following items are most likely the same for proxied HTTP and HTTPS connections. However, if you use a different proxy for each protocol, you would need all of the following for each:
 - The IP address of your proxy
 - The port your proxy uses
 - Whether your proxy requires that the connection to the proxy itself be over HTTPS (typically not the case). For example, if the address of your proxy is listed as <https://proxy.corp.com:80> then you would answer yes. If the listed address is <http://proxy.corp.com:80> then you would answer no. Note that both URLs use port 80, but the protocol is different.
 - The authentication details of your proxy including:
 - Whether your proxy requires auth (most do not)
 - If yes, then you'll need the username and password available when you configure the host.

Supported Installations

- Security Cloud Control supports installing its SDC VM OVF image using the vSphere web client or the ESXi web client.
- Security Cloud Control does not support installing the SDC VM OVF image using the vSphere desktop client.
- Security Cloud Control supports installing the SDC on your own Ubuntu instance. Versions 20LTS - 24LTS are currently supported.
- ESXi 5.1 hypervisor.

System Requirements

- System requirements for a VM with one SDC:
 - 2 vCPUs
 - 2 GB of memory

- 64 GB of disk space
- Each SDC you add to your host requires an additional 1 vCPU and 1 GB of RAM.
- System requirements for a VM with one SEC (a component that is used in Cisco Security Analytics and Logging):
 - 4 vCPUs minimum
 - 8 GB of memory
- Each SEC you add to the host requires doubling its resources, therefore, these are the requirements for a VMware ESXi host with one SDC and one SEC:
 - 6 vCPUs
 - 10 GB memory
 - 64 GB of disk space

Prepare for Installation

- To configure networking manually on the host, gather the following information:
 - The static IP address that you want to use for your VM
 - The passwords to use for the `cdouser` (or whichever user has sudo access) and the `sduser` (the user under which Docker runs)
 - The IP address of the DNS server your organization uses
 - The gateway IP address of the network the SDC address is on
 - The FQDN or IP address of your time/NTP server
- The SDC virtual machine is configured to install security patches regularly and to do this, opening port 80 outbound is required.

If your network is using allow/deny lists for outbound connections, you need to allow connections to `ubuntu.com` so those security updates can be applied.



Note

Ubuntu secures its updates with checksums and only uses HTTP, not HTTPS. To pull security updates, you must allow HTTP connections to `ubuntu.com`.

Deploy the VM

There are two options for deploying the VM used to run the SDC and SEC.

1. Follow the steps below to download the VMware image provided by Security Cloud Control.
2. To deploy Ubuntu 20, 22, or 24 yourself. If deploying your own Ubuntu instance, you may skip the following section and proceed to the Configure the VM section.

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.

2. In the left pane, click **Administration > Integrations > Secure Connectors**.
3. Select the **Secure Connectors** tab on the **Services** page, click the blue plus button, and select **Secure Device Connector**.
4. Click **Download the SDC VM** image. This opens in a new tab.
5. Extract all the files from the .zip file. They look similar to these:
 - CDO-SDC-VM-ddd50fa.ovf
 - CDO-SDC-VM-ddd50fa.mf
 - CDO-SDC-VM-ddd50fa-disk1.vmdk
6. Log in to your VMware server as an administrator using the vSphere Web Client.



Note

Do not use the ESXi Web Client.

Deploy the Secure Device Connector virtual machine from the OVF template by following the prompts.

7. When the setup is complete, power on the SDC VM.
8. Open the console for your new SDC VM.
9. Log in with the `cdo` username. The default password is `adm123`.

Configure the VM

Now you are able to bring up the console for the VM image you deployed (or SSH into it if you rolled your own and enabled SSH), you should run the configuration script to get your host ready to run the SDC or SEC Docker container(s).

1. If you downloaded the Security Cloud Control-provided VM, the CLI is already installed, and you can proceed to step 2. If you have deployed your own VM, SSH into it and run the command to install the CLI:

```
curl -O
https://s3.us-west-2.amazonaws.com/download.defenseorchestrator.com/sdc-cli/sdc-cli-package-latest.tgz
&& tar -xvf sdc-cli-package-latest.tgz && chmod +x ./install.sh &&
./install.sh
```

2. Start the host configuration by running the command:

```
sudo sdc host configure
```

3. When prompted for the password, enter `adm123` for the Security Cloud Control-provided VM or whatever admin password you chose for your own VM.
4. Follow the prompts to configure the `sdc` user.
5. When prompted for the networking configuration, choose one of the following:
 - Manually configure this host with a static IP: If you want to specify the IP, gateway, DNS server, and so on, for this host and write it to the system config on the VM.
 - DHCP: If you have a DHCP server assigning static IPs to your VMs.
 - Static IP is already configured and I don't want to change my networking now.

6. When prompted, answer the questions about your proxy configuration. Review the detailed list at the top of this topic for all the prerequisites and potential proxy configuration options.
7. If you have configured a proxy, you will be prompted to reboot the VM for all the proxy settings to take effect. If you did not, you will not be prompted to reboot and you can move on to step 8.
8. Set a custom internet access test URL. You only need to do this if you deny all outbound connections by default. If you do, then specify a publicly accessible web url such as <https://google.com> that is on your allow list.
9. Install the latest security patches, some requires os tools and Docker server.
10. When prompted, indicate whether you want to have the script harden your SSH configuration.
If using our VM, proceed. If you are using your own VM and configuring SSH yourself, you may want to skip this step to avoid changing your current configuration.
11. When prompted to enable automatic updates for the SDC or SEC and the CLI itself, it is recommended that you do this to stay up to date with bug fixes, patches, and new features. If your policies prevent you from allowing automatic updates, see [Update your Secure Device Connector](#).

Deploy a Secure Device Connector On Your VM

When using device credentials to connect Security Cloud Control to a device, it is a best practice to download and deploy a Secure Device Connector (SDC) in your network to manage the communication between Security Cloud Control and the device. Typically, these devices are non-perimeter based, do not have a public IP address, or have an open port to the outside interface. Adaptive Security Appliances (ASAs), FDM-managed devices, and Firepower Management Centers (FMCs) devices can all be onboarded to Security Cloud Control using device credentials.

The SDC monitors Security Cloud Control for commands that need to be executed on your managed devices, and messages that need to be sent to your managed devices. The SDC executes the commands on behalf of Security Cloud Control, sends messages to Security Cloud Control on behalf of the managed devices, and returns replies from the managed devices to Security Cloud Control.

The number of devices a single SDC can manage depends on the features implemented on those devices and the size of their configuration files. For the purposes of planning your deployment, however, we expect one SDC to support approximately 500 devices. See [Use multiple Secure Device Connectors on one organization](#) on page 55 for more information.

This procedure describes how to install an SDC in your network by using your own virtual machine image.



Note

The preferred, easiest, and most reliable way to install an SDC is to download Security Cloud Control's SDC OVA image and install it.

Before you begin

- Security Cloud Control requires strict certificate checking and does not support a Web/Content Proxy between the SDC and the Internet.
- The SDC must have full outbound access to the Internet on TCP port 443 in order for it to communicate with Security Cloud Control.
- Devices that reach Security Cloud Control through the SDC must allow inbound access from the SDC on port 443.
- Review [Connect to Security Cloud Control using Secure Device Connector](#) for networking guidelines.
- VMware ESXi host installed with vCenter web client or ESXi web client.

 Note

We do not support installation using the vSphere desktop client.

- ESXi 5.1 hypervisor.
- Ubuntu 22.04 and Ubuntu 24.04 operating system.
- System requirements for a VM with only an SDC:
 - VMware ESXi host needs 2 CPUs.
 - VMware ESXi host needs a minimum of 2 GB of memory.
 - VMware ESXi requires 64 GB disk space to support the virtual machine depending on your provisioning choice. This value assumes you are using Logical Volume Management (LVM) with the partition so you can expand required disk space as needed.
- After you have updated the CPU and memory on the VM, power on the VM and ensure that the Secure Connectors page indicates that the SDC is in the "Active" state.
- Users performing this procedure should be comfortable working in a Linux environment and using the vi visual editor for editing files.
- If you are installing your on-premise SDC on a CentOS virtual machine, we recommend you install Yum security patches on a regular basis. Depending on your Yum configuration, to acquire Yum updates, you may need to open outbound access on port 80 as well as 443. You will also need to configure yum-cron or crontab to schedule the updates. Work with your security-operations team to determine if any security policies need to change to allow you to get the Yum updates.

 Note

Before you get started: Do not copy and paste the commands in the procedure into your terminal window, type them instead. Some commands include an "n-dash" and in the cut and paste process, these commands can be applied as an "m-dash" and that may cause the command to fail.

Procedure

1. Log on to the Security Cloud Control tenant you are creating the SDC for.
2. From the Security Cloud Control Home page, click **Firewall**.
3. In the left pane, click **Administration > Integrations > Secure Connectors**.
4. On the **Services** page, select the **Secure Connectors** tab, click the blue plus button, and select **Secure Device Connector**.
5. Copy the bootstrap data in step 2 on the window to a notepad.
6. Install a **CentOS 7 virtual machine** with at least the following RAM and disk space allotted to the SDC:
 - 8GB of RAM
 - 10GB disk space

7. Once installed, configure basic networking such as specifying the IP address for the SDC, the subnet mask, and gateway.
8. Configure a DNS (Domain Name Server) server.
9. Configure a NTP (Network Time Protocol) server.
10. Install an SSH server on CentOS for easy interaction with SDC's CLI.
11. Run a Yum update and then install the packages: **open-vm-tools**, **nettools**, and **bind-utils**

```
[root@sdc-vm ~]# yum update -y
[root@sdc-vm ~]# yum install -y open-vm-tools net-tools
bind-utils
```

12. Install the AWS CLI package; see <https://docs.aws.amazon.com/cli/latest/userguide/awscli-install-linux.html>.

 Note

Do not use the `--user` flag.

13. Install the Docker CE packages; see <https://docs.docker.com/install/linux/docker-ce/centos/#install-docker-ce>

 Note

Use the "Install using the repository" method.

14. Start the Docker service and enable it to start on boot:

```
[root@sdc-vm ~]# systemctl start docker
[root@sdc-vm ~]# systemctl enable docker
Created symlink from /etc/systemd/system/multiuser.target.wants/docker.service
to
/usr/lib/systemd/system/docker.service.
```

15. Create two users: `cdo` and `sdc`. Use the `cdo` user to perform administrative tasks without directly accessing the root user. The `sdc` user will be designated for running the SDC docker container.

```
[root@sdc-vm ~]# useradd cdo
[root@sdc-vm ~]# useradd sdc -d /usr/local/cdo
```

16. Set a password for the `sdc` user.

```
[root@sdc-vm ~]# passwd cdo
Changing password for user cdo.
New password: <type password>
Retype new password: <type password>
passwd: all authentication tokens updated successfully.
```

17. Add the `sdc` user to the `wheel` group to give it administrative (sudo) privileges.

```
[root@sdc-vm ~]# usermod -aG wheel cdo
[root@sdc-vm ~]#
```

18. When Docker is installed, there is a user group created. Depending on the version of CentOS/Docker, this may be called either "docker" or "dockerroot". Check the `/etc/group` file to see which group was created, and then add the `sdc` user to this group.

```
[root@sdc-vm ~]# grep docker /etc/group
docker:x:993:
[root@sdc-vm ~]#
[root@sdc-vm ~]# usermod -aG docker sdc
[root@sdc-vm ~]#
```

19. If the `/etc/docker/daemon.json` file does not exist, create it, and populate with the contents below. Once created, restart the docker daemon.

Note

Make sure that the group name entered in the "group" key matches the group you found in the `/etc/group` file the previous step.

```
[root@sdc-vm ~]# cat /etc/docker/daemon.json
{
  "live-restore": true,
  "group": "docker"
}
[root@sdc-vm ~]# systemctl restart docker
[root@sdc-vm ~]#
```

20. If you are currently using a vSphere console session, switch over to SSH and log in with the `cdo` user. Once logged in, change to the `sdc` user. When prompted for a password, enter the password for the `cdo` user.

```
[CDO@sdc-vm ~]$ sudo su sdc
[sudo] password for cdo: <type password for cdo user>
[sdc@sdc-vm ~]$
```

21. Change directories to `/usr/local/CDO`.

22. Create a new file called `bootstrapdata` and paste the bootstrap data from Step 2 of the **Deploy an On-Premises Secure Device Connector** wizard into this file. **Save** the file. You can use `vi` or `nano` to create the file.

23. The bootstrap data comes encoded in base64. Decode it and export it to a file called `extractedbootstrapdata`

```
[sdc@sdc-vm ~]$ base64 -d /usr/local/CDO/bootstrapdata >
/usr/local/CDO/extractedbootstrapdata
[sdc@sdc-vm ~]$
```

Run the cat command to view the decoded data. The command and decoded data should look similar to this:

```
[sdc@sdc-vm ~]$ cat /usr/local/ CDO/extractedbootstrapdata
CDO_TOKEN="<token string>"
CDO_DOMAIN="www.defenseorchestrator.com"
CDO_TENANT="<tenant-name>"

CDO_BOOTSTRAP_URL="https://www.defenseorchestrator.com/sdc/bootstrap/tenant-name/<tenant-name-SDC>"
```

24 Run the following command to export the sections of the decoded bootstrap data to environment variables.

```
[sdc@sdc-vm ~]$ sed -e 's/^/export /g' extractedbootstrapdata > sdcenv &&
source sdcenv
[sdc@sdc-vm ~]$
```

25 Download the bootstrap bundle from Security Cloud Control.

```
[sdc@sdc-vm ~]$ curl -O -H "Authorization: Bearer $CDO_TOKEN"
"$CDO_BOOTSTRAP_URL"
100 10314 100 10314 0 0 10656 0 --:--:-- --:--:-- --:--:--
10654
[sdc@sdc-vm ~]$ ls -l /usr/local/ CDO/*SDC
-rw-rw-r--. 1 sdc sdc 10314 Jul 23 13:48
/usr/local/CDO/tenant-name-SDC
```

26 Extract the SDC tarball, and run the bootstrap.sh file to install the SDC package.

```
[sdc@sdc-vm ~]$ tar xzvf /usr/local/CDO/tenant-name-SDC
<snipped - extracted files>
[sdc@sdc-vm ~]$
[sdc@sdc-vm ~]$ /usr/local/ CDO/bootstrap/bootstrap.sh
[2018-07-23 13:54:02] environment properly configured
download: s3://onprem-sdc/toolkit/prod/toolkit.tar to
toolkit/toolkit.tar
toolkit.sh
common.sh
[2018-07-23 13:54:04] startup new container
Unable to find image 'ciscodefenseorchestrator/sdc_prod:latest'
locally

sha256:d98f17101db10e66db5b5d6afda1c95c29ea0004d9e4315508fd30579b275458:
Pulling from
ciscodefenseorchestrator/sdc_prod
08d48e6f1cff: Pull complete
ebbd10b629b1: Pull complete
d14d580ef2ed: Pull complete
45421d451ab8: Pull complete
<snipped - downloads>
no crontab for sdc
```

The SDC should now show "Active" in Security Cloud Control.

What to do next

.

Bootstrap a Secure Device Connector on the Deployed Host

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. In the left pane, click **Administration > Integrations > Secure Connectors**.
3. On the **Services** page, select the **Secure Connectors** tab, click the + icon, and select **Secure Device Connector**.
4. Copy the bootstrap data in step 2 on the window to a notepad.
5. SSH into your VM using the admin user, typically `cdo`, and your chosen password.
6. Switch to the `sdcc` user using the command:

```
sudo su - sdc
```

7. Bootstrap your new SDC using the command:

```
sdc bootstrap <paste-your-bootstrap-data-here>
```

8. Select the version of the SDC you want to use.

We have three options for the SDC version:

- SDC 2024- This is the version that most will want to run.
- SDC 2024 with FIPS enabled- Choose this version if you are subject to FedRamp compliance.
- SDC Legacy- This version is no longer receiving feature updates and it is recommended to run SDC 2024 instead.

9. The CLI pulls the container image and starts the SDC and you can validate that your SDC is active and operational on the user interface, and also on the host by running:

```
sdc show running
```

You should now see an SDC for your tenant.

Deploy a Secure Device Connector to vSphere Using Terraform

Before you begin

This procedure details how you can use the [Security Cloud Control SDC Terraform module for vSphere](#) in conjunction with the [Security Cloud Control Terraform Provider](#) to deploy an SDC to your vSphere. Ensure you review the following prerequisites before attempting to perform this task procedure:

- You have vSphere datacenter version 7 and above
- You have an admin account on the datacenter with permissions to do the following:
 - Create VMs
 - Create folders
 - Create content libraries
 - Upload files to content libraries
- Terraform knowledge

Procedure

1. Create an API-only user in Security Cloud Control and copy the API token. To know how to create an API-only user, see [Create API Only Users](#).
2. Configure the Security Cloud Control Terraform provider in your Terraform repository by following the instructions in [Security Cloud Control Terraform Provider](#).

Example

```
terraform {
  required_providers {
    cdo = {
      source = "CiscoDevNet/cdo"
      version = "0.7.0"
    }
  }
}

provider "cdo" {
  base_url = "<the CDO URL you use to access CDO>"
  api_token = "<the API Token generated in step 1>"
}
```

3. Write Terraform code to create a `cdo_sdc` resource using the Security Cloud Control Terraform provider. See the [Terraform registry for Security Cloud Control-sdc resource](#) for more information.

Example

```
Resource "cdo_sdc" "my-sdc" {
  name = "my-sdc-in-vm"
}
```

The `bootstrap_data` attribute of this resource is populated with the value of the Security Cloud Control bootstrap data and is provided to the `cdo_sdc` Terraform module in the next step.

4. Write Terraform code to create the SDC in vSphere using [Security Cloud Control_sdc Terraform module](#).

Example

```
data "cdo_tenant" "current" {}

module "vsphere-cdo-sdc" {
  source          = "CiscoDevNet/cdo-sdc/vsphere"
  version         = "1.0.0"
  vsphere_username = "<replace-with-username-with-admin-privileges>"
  vsphere_password = "<super-secure-password>"
  vsphere_server   = "<replace-with-address-of-vsphere-server>"
  datacenter       = "<replace-with-datacenter-name>"
  resource_pool    = "<replace-with-resource-pool-name>"
  cdo_tenant_name  = data.cdo_tenant.current.human_readable_name
  datastore        = "<replace-with-name-of-datastore-to-deploy-vm-in>"

  network         = "<replace-with-name-of-network-to-deploy-vm-in>"
  host            = "<replace-with-esxi-host-address>"
  allow_unverified_ssl = <boolean; set to true if your vsphere server does not have a valid SSL certificate>
  ip_address      = "<sdc-vm-ip-address; must be in the subnet of the assigned network for the VM>"
}
```

```

gateway          = "<replace-with-network-gateway-address>"
cdo_user_password = "<replace-with-password-for-cdo-user-in-sdc-vm>"
root_user_password = "<replace-with-password-for-root-user-in-sdc-vm>"
cdo_bootstrap_data = cdo_sdc.sdc-in-vsphere.bootstrap_data
}

```

Note that the VM created has two users—a `root` user and a user called `cdo`—and the IP Address of the VM is configured statically. The `cdo_bootstrap_data` attribute is given the value of the `bootstrap_data` attribute generated when the `cdo_sdc` resource is created.

5. Plan and apply your Terraform using `terraform plan` and `terraform apply`, as you would normally.

See the [Security Cloud Control Automation Repository](#) in the CiscoDevNet for a complete example.

If your SDC stays in the onboarding state, connect to the vSphere VM using remote console, log in as the `cdo` user, and execute the following command:

```
sdc host status
```

Depending on the readout, you may need to manually run:

```
sdc host configure
```



Note

The Security Cloud Control Terraform modules are published as Open Source Software under the Apache 2.0 license. You can file issues on GitHub if you require support.

Deploy a Secure Device Connector on an AWS VPC Using a Terraform Module

This procedure details the steps involved in deploying a secure device connector on an AWS VPC using a Terraform module.

Before you begin

Review these prerequisites before attempting to deploy an SDC on your AWS VPC:

- Security Cloud Control requires strict certificate checking and does not support Web/Content Proxy inspection between the SDC and the Internet. If using a proxy server, disable inspection for traffic between the Secure Device Connector (SDC) and Security Cloud Control.
- See [Connect Security Cloud Control to the Secure Device Connector](#) to ensure proper network access.
- You require an AWS account, an AWS VPC with at least one subnet, and an AWS Route53-hosted zone.
- Ensure you have the Security Cloud Control bootstrap data, your AWS VPC ID, and its subnet ID handy.
- Ensure that the private subnet to which you deploy the SDC has a NAT gateway attached.
- Open traffic on the port on which your firewall management HTTP interface is running, from your firewalls to the Elastic IP attached to the NAT gateway.

Procedure

1. Add the following lines of code in your Terraform file; make sure you manually enter inputs for variables:

```
module "example-sdc" {
  source =
  "git::https://github.com/cisco-lockhart/terraform-aws-cdo-sdc.git?ref=v0.0.1"

  env                = "example-env-ci"
  instance_name      = "example-instance-name"
  instance_size      = "r5a.xlarge"
  cdo_bootstrap_data = "<replace-with-cdo-bootstrap-data>"
  vpc_id             = <replace-with-vpc-id>
  subnet_id         = <replace-with-private-subnet-id>
}
```

See the [Secure Device Connector Terraform module](#) for a list of input variables and descriptions.

2. Register `instance_id` as an output in your Terraform code:

```
output "example_sdc_instance_id" {
  value = module.example-sdc.instance_id
}
```

You can use the `instance_id` to connect to the SDC instance for troubleshooting using the AWS Systems Manager Session Manager (SSM). See [Outputs](#) in the Secure Device Connector Terraform module for a list of available outputs.

What to do next

For any troubleshooting of your SDC, you need to connect to the SDC instance using AWS SSM. See [AWS Systems Manager Session Manager](#) to know more about how to connect to your instance. Note that the ports to connect to the SDC instance using SSH are not exposed because of security reasons.



Note

The Security Cloud Control Terraform modules are published as Open Source Software under the Apache 2.0 license. You can file issues on GitHub if you require support.

Migrate an On-Premises Secure Device Connector and Secure Event Connector from a CentOS 7 Virtual Machine to an Ubuntu Virtual Machine

Security Cloud Control's on-premises Secure Device Connector (SDC) has been installed on CentOS 7 virtual machines up to this point. Since CentOS 7 is now end-of-life and has been deprecated by Security Cloud Control, we have created this migration process to help you migrate all SDCs from CentOS 7 to an Ubuntu virtual machine.

Before You Migrate

- The SDC must have full outbound access to the internet on TCP port 443.
- The Ubuntu virtual machine running the SDC must have network access to the management interfaces of the devices it communicates with, such as ASAs and Cisco IOS devices.
- Any networking rules created for the IP address or FQDN of the old SDC VM to reach your devices should be recreated with the IP address or FQDN of the new SDC VM.

- The migration will take 10 to 15 minutes. During this time, your device will continue to enforce security policy and route network traffic, but you will not be able to communicate with it through the SDC.

Prerequisites

Deploy a new host by following the instructions on [Deploy a VM for Running the Secure Device Connector and Secure Event Connector](#).

Host Configuration

Follow this procedure if you are migrating the SDC and/or SEC:

1. Download the new VM image [here](#).
2. Unzip the CDO-SDC_VM.zip file. You should see three VM files named similarly to the following:
 - CDO-SDC-VM-708cd33-2024-05-30-2031-disk1.vmdk
 - CDO-SDC-VM-708cd33-2024-05-30-2031.mf
 - CDO-SDC-VM-708cd33-2024-05-30-2031.ovf
3. Deploy the VM you just downloaded.
4. Note the static IP address or FQDN you assigned to the new VM.
5. Using SSH, log in to the new VM as the `cdo` user.
6. At the prompt, enter the command:

```
sudo sdc host configure
```



Note

- Follow the prompts in the migration script closely. The script is well-documented and will guide you through the migration process, explaining each step.
- At the end of the migration script, you will receive a message indicating that your SDC has been migrated to the new VM. The SDC will retain its name after the migration.

SDC Migration

Procedure:

1. Using SSH, log in to the old (CentOS) SDC as the `cdo` user.
2. Install the CLI using the command:

```
curl -O
https://s3.us-west-2.amazonaws.com/download.defenseorchestrator.com/sdc-cli/sdc-cli-package-latest.tgz
&& tar -xvf sdc-cli-package-latest.tgz && chmod +x ./install.sh &&
./install.sh
```

3. Run the following command and follow the prompts:

```
sudo sdc migrate now
```

Verification:

1. Log in to your Security Cloud Control tenant.
2. Select the SDC you migrated, and in the **Actions** pane, click **Request Heartbeat**.



Note

Ensure that the SDC is in the **Active** state.

SEC Migration

Procedure:

1. Using SSH, log in to the old (CentOS) SDC as the `cdo` user.
2. Install the CLI using the command:

```
curl -O
https://s3.us-west-2.amazonaws.com/download.defenseorchestrator.com/sdc-cli/sdc-cli-package-latest.tgz
&& tar -xvf sdc-cli-package-latest.tgz && chmod +x ./install.sh &&
./install.sh
```

3. Run the following command and follow the prompts:

```
sudo sdc eventing migrate
```

4. You can configure your devices to point to the new IP address of the SEC or you can shut down the old host and assign the new host the same IP address that the old host had so that the devices do not need to be updated.

Verification:

For information on the state of the SEC, see [Use Health Check to Learn the State of your Secure Event Connector](#).

Additional Instructions

Do Not Restart Your Old SDC

After the migration is complete, do not restart your old SDC on the original virtual machine.

Revert Failed Migration

If the migration fails for any reason, or the result is not what you are expecting and you want to revert to the old SDC, follow the instructions below:

1. Log in to the new VM and switch to the **SDC** user.
2. Ensure the SDC is not currently running on the new VM using the command:

```
docker ps
```

3. If the SDC is running, run the command:

```
sdc stop
```

4. Confirm that the SDC has stopped running by executing `docker ps` again.

5. Log in to the old VM and run the command:

```
sdc migrate revert
```

6. When the old SDC is active and visible in the UI, return to the new VM and execute the command:

```
sdc delete <your-tenant-name-here>
```

7. Refresh the browser completely, click on the SDC, and verify that the IP of the old host appears in the sidebar.

If the new IP still appears despite following these steps, request a new health check, refresh the browser, and check again.

8. To revert the SEC migration, run the command:

```
sdc eventing revert
```

Change the IP Address of a Secure Device Connector

When you are using a Secure Device Connector (SDC) deployed on your own VM, you might need to change the IP address of your SDC for several reasons, such as migrating your VMs to a different data center. Use this procedure to assign a new IP address to your SDC.

Before you begin

- You must be an admin to perform this task.
- The SDC must have full outbound access to the Internet on TCP port 443, or the port you have configured for device management.



Note

You will not be required to re-onboard any devices to Security Cloud Control after changing the SDC's IP address.

Procedure

1. Create an SSH connection to your SDC or open your virtual machine's console, and log in as the **CDO** user.
2. To view your SDC VM's network interface configuration information before changing the IP address, use the command:

```
[cdo@localhost ~]$ ip addr
```

3. To change the IP address of the interface, re-initiate the host configuration using the command:

```
[cdo@localhost ~]$ sdc host configure network
```

4. Enter your password at the prompt.

5. The configure script will then ask you about your networking configuration, write the new config file with the new IP and apply that configuration.

 Note

You will lose your SSH connection at this time.

6. Create an SSH connection using the new IP address you assigned to your SDC and log in.
7. Your SDC should start automatically, but if it does not, run the following commands:

```
[cdo@localhost ~]$ sudo su - sdc
```

```
[cdo@localhost ~]$ sdc start
```

 Note

If you are performing this procedure in the VM's console, when you confirm the values are correct, the connectivity status test is automatically run and the status is shown.

8. You can also check your SDC's connectivity through the Security Cloud Control user interface. To do that, open the Security Cloud Control application and navigate to **Administration > Integrations > Secure Connectors** page.
9. Refresh the page once and select the secure connector whose IP address you changed.
10. On the **Actions** pane, click **Request Heartbeat**. You should see the **Heartbeat** requested successfully message, and the **Last Heartbeat** should display the current date and time.

Move an ASA from one Secure Device Connector to Another

Security Cloud Control Firewall Management [supports the use of more than one SDC per tenant](#). You can move a managed ASA from one SDC to another using this procedure:

Procedure

1. In the left pane, click **Security Devices**.
2. Click the **ASA** tab.
3. Select the ASA or ASAs you want to move to a different SDC.
4. In the **Device Actions** pane, click **Update Credentials**.
5. Click the Secure Device Connector button and select the SDC you want to move the device to.
6. Enter the administrator username and password Security Cloud Control uses to log into the device and click **Update**. Unless they were changed, the administrator username and password are the same credentials you used to onboard the ASA. You do not have to deploy these changes to the device.

**Note**

If all the ASAs use the same credentials, you can move ASAs in bulk from one SDC to another. If the ASAs have different credentials, you have to move them from one SDC to another one at a time.

Rename a Secure Device Connector

Procedure

1. In the left pane, choose **Administration > Integrations > Secure Connectors**.
 2. Select the SDC you want to rename.
 3. In the Details pane, click the edit icon  next to the name of the SDC.
 4. Rename the SDC.
-

This new name will appear wherever the SDC name appears in the Security Cloud Control interface including the Secure Device Connectors filter of the **Security Devices** pane.

Update a Secure Device Connector manually

Use this task as a troubleshooting tool. The source says that the SDC is usually updated automatically and that you should not need to perform a manual update unless errors occur.

Procedure

1. Connect to your SDC. You can connect using SSH or use the console view in your Hypervisor.
2. Log in to the SDC as the admin user, typically **cdo**.
3. Switch to the SDC user to update the SDC docker container:

```
[cdo@sdcm-vm ~]$ sudo su sdc
[sudo] password for cdo: <type password for cdo user>
[sdcm@sdcm-vm ~]$
```

4. Upgrade the SDC:

```
sdcm upgrade
```

 Note
Recommended updates and maintenance on the SDC Virtual Machine

Ensure that you monitor and apply updates to the SDC VM running on Ubuntu Linux following your organisation's internal IT security and patch management policies. We highly recommend regularly reviewing and applying relevant security patches to ensure that the SDC VM remains secure and functions optimally within your network environment.

Use multiple Secure Device Connectors on one organization

You can install an unlimited number of SDCs on a tenant. Multiple SDCs let you manage more devices and place connectors in different network segments while keeping those devices in the same Security Cloud Control Firewall Management tenant. The procedure for deploying a second or later SDC is the same as the procedure for the first SDC. The first SDC name includes the tenant name and the number `1`. Each additional SDC is numbered in order.

- The procedure for deploying a second or subsequent SDC is the same for deploying your first SDC.
- The initial SDC for your tenant incorporates the name of your tenant and the number 1. Each additional SDC is numbered in order.

Find devices that use the same Secure Device Connector

Follow this procedure to find devices that connect through the same SDC:

Procedure

1. In the left pane, **Security Devices**.
2. Click the **Devices** tab to locate the device.
3. Click the appropriate device type tab.
4. If there is any filter criteria already specified, click the **clear** button at the top of the **Security Devices** page to show all the devices and services you manage with Security Cloud Control.
5. Click the filter button  to expand the **filter** menu.
6. In the **Secure Device Connectors** section of the filter, check the name of the SDC(s) you're interested in. The **Security Devices** page displays only the devices that connect to Security Cloud Control through the SDC you checked in the filter.
7. (Optional) Check additional filters in the filter menu to refine your search further.
8. (Optional) When you're done, click the **clear** button at the top of the **Security Devices** page to show all devices and services you manage with Security Cloud Control.

Remove a Secure Device Connector

Deleting an SDC is not reversible. After you remove it, you cannot manage the devices that were connected to that SDC until you install a new SDC and reconnect the devices. Reconnecting devices can require you to enter administrator credentials again.

Before you remove an SDC, move the connected devices to another SDC or remove them from Security Cloud Control Firewall Management.

Procedure

1. Remove any devices connected to the SDC you want to delete. You can do this one of two ways:
 - Move some devices to different SDCs or off of an SDC entirely. See below for more information:
 - [Update AWS VPC connection credentials](#) on page 79
 - Remove from Security Cloud Control any devices connected to the SDC you want to delete.
 - a. See [Find all Devices that Connect to Security Cloud Control Using the Same SDC](#) to identify all the devices used by the SDC.
 - b. In the **Security Devices** page, select all the devices you identified.
 - c. In the Device Actions pane, click **Remove** and click **OK** to confirm your action.
2. From the Security Cloud Control Home page, click **Firewall**.
3. In the left pane, click **Administration > Integrations > Secure Connectors**.
4. On the **Services** page with the **Secure Connectors** tab selected, click the blue plus button and select **Secure Device Connector**.
5. In the Secure Connectors table, select the SDC you want to remove. Its device count should now be zero.
6. In the Actions pane, click  **Remove**. You receive this warning:



Warning

You are about to delete <sdc_name>. Deleting the SDC is not reversible. Deleting the SDC will require you to create and onboard a new SDC before you can onboard, or re-onboard, your devices.

Because you currently have onboarded devices, removing the SDC will require you to reconnect those devices and provide credentials again after setting up a new SDC.

- If you have any questions or concerns, click **Cancel** and contact Security Cloud Control support.
 - If you wish to proceed, enter <sdc_name> in the text box below and click **OK**.
7. In the confirmation dialog box, if you wish to proceed, enter your SDC's name as it is stated in the warning message.
 8. Click **OK** to confirm the SDC removal.
-

5 Onboard devices in Security Cloud Control Firewall Management

Topics:

- [Supported devices, software, and hardware for Security Cloud Control Firewall Management](#)
- [Onboard an AWS VPC](#)

Learn how to onboard devices in Security Cloud Control Firewall Management, including prerequisites, connector selection, credentials, labels, and inventory results.

You can onboard both live devices and model devices to Security Cloud Control Firewall Management. Model devices are uploaded configuration files that you can view and edit using Security Cloud Control Firewall Management.

Most live devices and services require an open HTTPS connection so that the Secure Device Connector can connect Security Cloud Control Firewall Management to the device or service.

Supported devices, software, and hardware for Security Cloud Control Firewall Management

An overview of devices supported by Security Cloud Control Firewall Management.

Security Cloud Control Firewall Management is a cloud-based management solution enabling the management of security policies and device configurations across multiple security platforms.

This section describes the supported device types, software, hardware, and constraints for managing firewall, cloud, SD-WAN, Cisco IOS, Cisco Umbrella, and management center integrations in Security Cloud Control Firewall Management.

Support scope

Security Cloud Control Firewall Management is a cloud-based management solution for security policies and device configurations across multiple security platforms. The source identifies support for these management areas:

- Cisco Secure Firewall ASA, both on-premises and virtual
- Cisco Secure Firewall Threat Defense (FTD), both on-premises and virtual
- Cisco Catalyst SD-WAN Manager
- Cisco Secure Firewall Management Center, on-premises
- Cisco Meraki MX
- Cisco IOS devices
- Cisco Umbrella
- AWS Security Groups

Security Cloud Control Firewall Management documentation identifies the devices, software, and hardware that Security Cloud Control Firewall Management supports. If the documentation does not explicitly claim support for a software version or device type, Security Cloud Control Firewall Management does not support it.

Cisco Secure Firewall ASA

Cisco Adaptive Security Appliance (ASA) is a security device that integrates firewall, VPN, and intrusion prevention capabilities. Security Cloud Control supports ASA device management to streamline configuration management and support regulatory compliance across the network infrastructure.

Cisco Secure Firewall Threat Defense

Cisco Secure Firewall Threat Defense integrates traditional firewall features with advanced threat protection capabilities. It includes security functions such as intrusion prevention, application control, URL filtering, and advanced malware protection.

A Secure Firewall Threat Defense device can be deployed on ASA hardware appliances, Cisco firewall hardware appliances, and virtual environments. You can manage threat defense devices through management interfaces such as Cisco Firewall Management Center, Security Cloud Control, and Firewall Device Manager.

Firewall Threat Defense integrates traditional firewall features with advanced threat protection capabilities. It offers comprehensive security functions, including intrusion prevention, application control, URL filtering, advanced malware protection, and so on. An FTD can be deployed on ASA hardware appliances, and Cisco firewall hardware appliances, and in virtual environments. Managing threat defense devices is possible through various management interfaces, such as Cisco Firewall Management Center, Security Cloud Control Firewall Management, and Firewall Device Manager.

For more information on software and hardware compatibility, see the [Cisco Secure Firewall Threat Defense Compatibility Guide](#).

Firewall Device Manager is a web-based management interface explicitly designed for threat defense device management. It provides a simplified approach for configuring and monitoring threat defense devices, making it ideal for smaller-scale deployments or organizations preferring an intuitive interface.

FDM offers basic configuration capabilities for network settings, access control policies, NAT rules, VPN configuration, monitoring, and basic troubleshooting. Typically accessed through a web browser, FDM is directly available on the FTD device, eliminating the need for additional management servers or appliances.

Cisco Catalyst SD-WAN Manager

Security Cloud Control offers centralized management for Catalyst SD-WAN and Branch WAN environments, allowing organizations to efficiently configure, monitor, and enforce security policies across their networks. This integration also facilitates advanced troubleshooting, rule optimization, and change management on the Catalyst SD-WAN Manager.

For more information on software and hardware compatibility, see [Cisco Catalyst SD-WAN Device Compatibility](#).

Cisco Secure Firewall Management Center

Security Cloud Control Firewall Management simplifies the management of on-premises Firewall Management Center by establishing a secure integration, discovering security devices, and enabling centralized policy management. Security policies such as firewall rules, VPN settings, and intrusion prevention policies can be efficiently managed and deployed across all devices under FMC.

Cisco Meraki MX

The Cisco Meraki MX appliance is an enterprise-grade security and SD-WAN next-generation firewall appliance for decentralized deployments. Security Cloud Control Firewall Management supports management of layer 3 network rules on Meraki MX devices.

When you onboard a Meraki device to Security Cloud Control Firewall Management, Security Cloud Control Firewall Management communicates with the Meraki dashboard to manage that device. Security Cloud Control Firewall Management transfers configuration requests to the Meraki dashboard, and the Meraki dashboard applies the new configuration to the device.

Security Cloud Control Firewall Management support for Cisco Meraki MX includes centralized policy management, backup and restore, monitoring and reporting, compliance checking, and automation capabilities.

Cisco IOS devices

Cisco IOS software manages network functions such as routing, switching, and other networking protocols. Cisco IOS includes features and commands to configure and maintain Cisco network devices.

Cisco Umbrella

Security Cloud Control Firewall Management manages Cisco Umbrella through integrations such as the Umbrella ASA Integration. This integration lets administrators include Cisco Adaptive Security Appliance (ASA) devices in their Umbrella configuration by using per-interface policies.

The integration enables ASA devices to redirect DNS queries to Umbrella and use Umbrella DNS security, web filtering, and threat intelligence capabilities.

AWS Security Groups

Security Cloud Control Firewall Management provides a simplified management interface for Amazon Web Services (AWS) Virtual Private Clouds (VPCs). Source-backed capabilities include monitoring AWS Site-to-Site VPN connections, tracking changes to AWS devices, and viewing AWS Site-to-Site VPN tunnels.

Cloud Device Support Specifics

The following table describes software and device type support for cloud-based devices. Read the affiliated links for more information about onboarding and feature functionality for the device types in the table below:

Devices Types	Notes
Amazon Web Services VPC	AWS VPC receives updates through the AWS console. Refer to AWS documentation for more information about the platform and available services. Launch an AWS VPC in the AWS console before onboarding it to Security Cloud Control Firewall Management.
Google Cloud Platform	Google Cloud Platform (GCP) receives updates through the GCP console. Refer to Google Cloud documentation for more information about the platform and available services.
Microsoft Azure	Azure receives updates through the Azure console. Refer to Azure documentation for more information about the platform and available services.

Onboard an AWS VPC

Learn how to onboard an AWS VPC in Security Cloud Control Firewall Management so you can manage VPC details, security groups, and site-to-site VPN connectivity.

To onboard an AWS VPC to Security Cloud Control Firewall Management, follow this procedure.

Before you begin



Note

Security Cloud Control Firewall Management does not support peered AWS VPCs. If you attempt to onboard a peered VPC referencing a security group that is defined on the peer VPC, the onboarding process fails.

Before onboarding your Amazon Web Services (AWS) Virtual Private Cloud (VPC) to Security Cloud Control Firewall Management, review these prerequisites:

- To onboard an AWS VPC, you need the access key and secret access key for the VPC. Both credentials are generated using the Identity and Access Management (IAM) console. For more information about security credentials, refer to [Understanding and Getting your Security Credentials](#).
- Configure IAM permissions to allow Security Cloud Control to communicate with your AWS VPC. For more information about changing permissions for an IAM user, refer to [Changing Permissions for an IAM User](#). See this example for required permissions.

```
"cloudformation:CreateStack",
"cloudformation:CreateStackInstances",
"cloudformation:DescribeStackInstance",
"cloudformation:DescribeStackResource",
"cloudformation:DescribeStackResources",
"cloudformation:DescribeStacks",
"ec2:AllocateAddress",
```

```

"ec2:AllocateHosts",
"ec2:AssignPrivateIpAddresses",
"ec2:AssociateAddress",
"ec2:AssociateDhcpOptions",
"ec2:AssociateRouteTable",
"ec2:AssociateSubnetCidrBlock",
"ec2:AttachInternetGateway",
"ec2:AttachNetworkInterface",
"ec2:AuthorizeSecurityGroupEgress",
"ec2:AuthorizeSecurityGroupIngress",
"ec2:CreateDhcpOptions",
"ec2:CreateEgressOnlyInternetGateway",
"ec2:CreateInternetGateway",
"ec2:CreateNetworkAcl",
"ec2:CreateNetworkInterface",
"ec2:CreateNetworkInterfacePermission",
"ec2:CreateRoute",
"ec2:CreateRouteTable",
"ec2:CreateSecurityGroup",
"ec2:CreateSubnet",
"ec2:CreateTags",
"ec2:DescribeAddresses",
"ec2:DescribeAddressesAttribute",
"ec2:DescribeAvailabilityZones",
"ec2:DescribeDhcpOptions",
"ec2:DescribeEgressOnlyInternetGateways",
"ec2:DescribeInstanceStatus",
"ec2:DescribeInstances",
"ec2:DescribeInternetGateways",
"ec2:DescribeNetworkAcls",
"ec2:DescribeNetworkInterfaceAttribute",
"ec2:DescribeNetworkInterfacePermissions",
"ec2:DescribeNetworkInterfaces",
"ec2:DescribeRegions",
"ec2:DescribeRouteTables",
"ec2:DescribeSecurityGroupReferences",
"ec2:DescribeSecurityGroupRules",
"ec2:DescribeSecurityGroups",
"ec2:DescribeSubnets",
"ec2:DescribeTags",
"ec2:DescribeTransitGatewayVpcAttachments",
"ec2:DescribeTransitGateways",
"ec2:DescribeVpcs",
"ec2:DescribeVpnGateways",
"ec2:ModifyNetworkInterfaceAttribute",
"ec2:ModifySecurityGroupRules",
"ec2:ModifySubnetAttribute",
"ec2:RunInstances",
"sts:GetCallerIdentity"

```

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. Choose **Security Devices**.
3. Click  to begin onboarding the device.
4. Click the **AWS VPC** tile.
5. Enter these details in the **Account** page.

- a) Enter the Access Key ID and Secret Access Key to connect to the AWS account. The generated list of names is retrieved from the AWS VPC to which you supplied login credentials.
 - b) Click **Connect**.
6. Enter these details in the **VPC** page.
- a) Select a region from the drop-down menu. Choose the region where the VPC is located.
 - b) Click **Select**.
 - c) Use the drop-down menu to select the correct AWS VPC. The generated list of names is retrieved from the AWS VPC to which you supplied login credentials.

**Note**

AWS VPC IDs names are unique; there cannot be two or more instances with the same ID.

- d) Click **Select**.
7. Enter these details in the **Name** page.
- a) Enter a name to be shown in the Security Cloud Control UI.
 - b) Click **Continue**.
8. (Optional) Enter a label for the device in the **Labels** page, and click **Continue**.

**Note**

If you create labels for an AWS VPC, the tables are not automatically synchronized with your device. You must manually recreate the labels as tags in the AWS console. For more information about labels and tags in AWS VPC, refer to [Labels and Tags in AWS VPC](#) on page 75.

After successful onboarding, the Configuration Status changes to 'Synced,' and Connectivity changes to 'Online' on the **Security Devices** page.

Related information:

- [Update AWS VPC connection credentials](#) on page 79
- [AWS VPC Policy](#) on page 81

6 Manage onboarded device settings

Topics:

- [Changing a device's IP address in Security Cloud Control Firewall Management](#)
- [Changing a device's name in Security Cloud Control Firewall Management](#)
- [Export a list of devices and services](#)
- [Export device configuration](#)
- [External links for devices](#)
- [Bulk reconnect devices to Security Cloud Control Firewall Management](#)
- [Moving devices between organizations](#)
- [Device certificate expiry detection](#)
- [Write a device note](#)
- [Delete a device from Security Cloud Control Firewall Management](#)
- [Manage security devices](#)
- [Back up Firewall Threat Defense devices](#)
- [Manage Firewall Threat Defense devices through Security Cloud Control Firewall Management](#)
- [Security devices overview](#)
- [Security Cloud Control Firewall Management labels and filtering](#)
- [Use Security Cloud Control Firewall Management search functionality](#)

This chapter provides guidance on managing the device settings of the onboarded device.

Changing a device's IP address in Security Cloud Control Firewall Management

Learn how to use changing a device's IP address in Security Cloud Control Firewall Management.

When you onboard an device to Security Cloud Control Firewall Management using an IP address, Security Cloud Control Firewall Management stores that IP address in its database and communicates with the device using that IP address. If the IP address of the device changes, you can update the IP address stored in Security Cloud Control Firewall Management to match the new address. Changing the device's IP address on Security Cloud Control Firewall Management does not change device's configuration.

To change the IP address, Security Cloud Control uses to communicate with a device, follow this procedure:

Procedure

1. Choose **Security Devices**

2. Click the **Devices** tab to locate the device.

3. Click the appropriate device type tab.

You can use the [filter](#) and [search](#) functionalities to find the required device.

4. Select the device whose IP address it is you want to change.

5. Above the **Device Details** pane, click the edit button next to the device's IP address.



Nashua Building 1 
ASA 10.86.118.4:443 

6. Enter the new IP address in the field and click the blue check button.

No change is made to the device itself, so the device's Configuration Status will continue to show that it is Synced.

Related Information:

- [Moving devices between organizations](#) on page 70
- [Bulk reconnect devices to Security Cloud Control Firewall Management](#) on page 69

Changing a device's name in Security Cloud Control Firewall Management

Learn how to use changing a device's IP address in Security Cloud Control Firewall Management.

All devices, models, templates, and services are given a name when they are onboarded or created in Security Cloud Control Firewall Management. You can change that name without changing the configuration of the device itself.

Procedure

1. Choose **Security Devices**.

2. Click the **Device** tab to locate the device.

3. Select the device whose name it is you want to change.

4. Above the **Device Details** pane, click the edit button next to the device's name.



Nashua Building 1 

5. Enter the new name in the field and click the blue check button.

No change is made to the device itself, so the device's Configuration Status will continue to show that it is Synced.

Export a list of devices and services

Learn how to export a list of devices and services in Security Cloud Control Firewall Management.

This article explains how to export your list of devices and services to a comma-separated value (.csv) file. Once in that format, you can open the file in a spreadsheet application such as Microsoft Excel to sort and filter the items in your list.

The export button is available in both the **Devices** and **Templates** tab. You can also export details from devices under the selected device type tab.

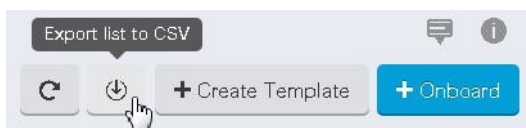
Before you export your list of devices and services, look at the filter pane and determine if the **Security Devices** page is displaying the information you want to export. Clear all filters to view all managed devices and services, or apply filters to display a subset of your devices and services. The export function includes only the information currently displayed in the **Security Devices** page.

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. Choose **Security Devices**.
3. Click the **Devices** tab to locate the device or the **Templates** tab to locate the model device.
4. Click the appropriate device type tab to export details from devices under that tab or click **All** to export details from all devices.

You can use the [filter](#) and [search](#) functionalities to find the required device.

5. Click **Export list to CSV**.



6. If prompted, save the .csv file.
7. Open the .csv file in a spreadsheet application to sort and filter the results.

Export device configuration

Learn how to export device configuration in Security Cloud Control Firewall Management.

You can only export one device configuration at a time. Use the following procedure to export a device's configuration to a JSON file:

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. Choose **Security Devices**.
3. Click the **Devices** tab to locate the device or the **Templates** tab to locate the model device.
4. Click the appropriate device type tab.

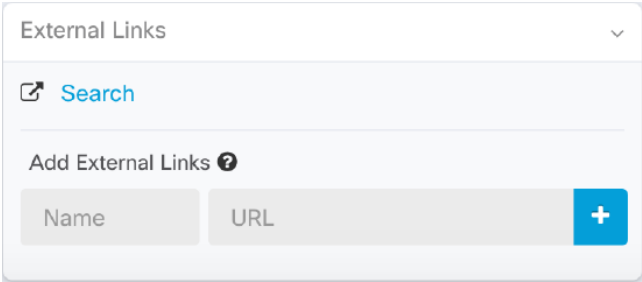
You can use the [filter](#) and [search](#) functionalities to find the required device.

5. Select the device you want so it is highlighted.
6. In the **Actions** pane, select **Export Configuration**.
7. Select **Confirm** to save the configuration as a JSON file.

External links for devices

Learn about external links for devices in Security Cloud Control Firewall Management.

You can create a hyperlink to an external resource and associate it with a device you manage with Security Cloud Control. You could use this feature to create a convenient link to the local manager of one of your devices (). You could also use it to link to a search engine, documentation resource, a corporate wiki, or any other URL that you choose. You can associate as many external links with a device as you want. You can also associate the same link with multiple devices at the same time.



The links you create can reach anywhere, but your company's security requirements do not change. For example, if you ordinarily need to be connected to your corporate network, by being on-premises or through a VPN connection to reach a particular URL, those requirements remain. If your company blocks specific URLs, those URLs continue to be blocked. URLs that are not restricted continue to not be restricted.

Location Variable

We have created the {location} variable that you can incorporate in your URLs. This variable will be populated with the IP address of your device. For example,

```
https://{location}
```

.

Related Information:

- [Write a device note](#) on page 71
- [Export a list of devices and services](#) on page 66

Create an External Link from your Device

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. Choose **Security Devices**.
3. Click the **Devices** tab to locate the device or the **Templates** tab to locate the model device.
4. Click the appropriate device type tab.

5. Select a device or model.

You can use the [filter](#) and [search](#) functionalities to find the required device.

6. Enter a name for the link in the details pane under the **External Links** section.
7. Enter the URL for the link in the URL field. You need to specify the full URL. For example, for Cisco, enter <http://www.cisco.com>.
8. Click + to associate the link with the device.

Create an External Link to

Here is a convenient way to open , directly from Security Cloud Control.

Procedure

1. In the left pane, click **Security Devices**.
2. Click the **Devices** tab to locate the device or the **Templates** tab to locate the model device.
3. Click the appropriate device type tab.
You can use the [filter](#) and [search](#) functionalities to find the required device.
4. Select a device or model.
5. In the details pane, on the right, go to the **External Links** section.
6. Enter a name for the link such as .
7. Enter `https://{location}` in the URL field. The {location} variable will be populated with the IP address of your device.
8. Click the + box.

Create an External Link for Multiple Devices

Procedure

1. Choose **Security Devices**.
2. Click the **Devices** tab to locate the device or the **Templates** tab to locate the model device.
3. Click the appropriate device type tab.

You can use the [filter](#) and [search](#) functionalities to find the required devices.

4. Select multiple devices or models.
5. In the details pane, on the right, go to the **External Links** section.
6. Enter a name for the link.
7. Enter the URL you want to reach using one of these methods:

- Enter

```
https://{location}
```

in the URL field. The {location} variable will be populated with the IP address of your device. This creates an automatic link to the ASDM for your device.

- Enter the URL for the link in the URL field. You need to specify the full URL, for example, for Cisco enter <http://www.cisco.com>.

8. Click + to associate the link with the device.
-

Edit or Delete External Links

Procedure

1. Choose **Security Devices**.
 2. Click the **Devices** tab to locate the device or the **Templates** tab to locate the model device.
 3. Click the appropriate device type tab.
You can use the [filter](#) and [search](#) functionalities to find the required device.
 4. Select a device or model.
 5. In the details pane, go to the **External Links** section.
 6. Mouse-over the name of the link to reveal the edit and delete icons.
 7. Click the appropriate icon to edit or delete the external link and confirm your action.
-

Edit or Delete External Links for Multiple Devices

Procedure

1. In the left pane, click **Security Devices**.
 2. Click the **Devices** tab to locate the device or the **Templates** tab to locate the model device.
 3. Click the appropriate device type tab.
You can use the [filter](#) and [search](#) functionalities to find the required devices.
 4. Select multiple devices or models.
 5. In the details pane, on the right, go to the **External Links** section.
 6. Mouse-over the name of the link to reveal the edit and delete icons.
 7. Click the appropriate icon to edit or delete the external link and confirm your action.
-

Bulk reconnect devices to Security Cloud Control Firewall Management

Learn how to bulk reconnect devices to Security Cloud Control Firewall Management.

Security Cloud Control Firewall Management allows an administrator to attempt to reconnect more than one managed device to Security Cloud Control Firewall Management at the same time. When a device Security Cloud Control Firewall Management manages is marked "unreachable," Security Cloud Control Firewall Management can no longer detect out of band configuration changes or manage the device. There could be many different reasons for the disconnect. Attempting to reconnect the devices is a simple first step in restoring Security Cloud Control Firewall Management's management of the device.

**Note**

If you are reconnecting devices having new certificates, Security Cloud Control Firewall Management automatically reviews and accepts the new certificates on the devices and continues to reconnect with them. However, if you are reconnecting with only one device, Security Cloud Control Firewall Management prompts you to review and accept the certificate manually to continue to reconnect with it.

Procedure

1. In the left pane, click **Security Devices**.
2. Click the **Devices** tab to locate devices.
3. Click the appropriate device type tab.
Use the [filter](#) to look for devices whose connectivity status is "unreachable."
4. From the filtered results, select the devices you want to attempt to reconnect.
5. Click **Reconnect** . Notice that Security Cloud Control only provides command buttons for actions that can be applied to all the selected devices.
6. Look at the **notifications** tab for the progress of the bulk device reconnect action. If you want more information about how the actions in the bulk device reconnect job succeeded or failed, click the blue Review link and you will be directed to the [Monitor jobs in Security Cloud Control](#) on page 120.

**Tip**

If a reconnect failure was caused because the device's certificate or credentials have changed, you will have to reconnect to those devices individually to add the new credentials and accept the new certificate.

Moving devices between organizations

Learn about moving devices between organizations in Security Cloud Control Firewall Management.

After onboarding devices to a Security Cloud Control Firewall Management organization, you cannot migrate the devices from one Security Cloud Control Firewall Management organization to another. If you want to move your devices to a new organization, you need to remove the devices from the old tenant and re-onboard them to the new organization.

Device certificate expiry detection

Learn about device certificate expiry detection in Security Cloud Control Firewall Management.

The management certificate is used for accessing FDM-managed and ASA devices from Security Cloud Control Firewall Management, while the Cisco Secure Client (formerly AnyConnect) is necessary for using virtual private network features on ASA, FDM-managed, and FTD devices from Security Cloud Control Firewall Management.

Security Cloud Control Firewall Management actively monitors the expiration status of these certificates and notifies the user when these certificates are nearing their expiration date or have expired. This prevents any disruptions in device operations due to certificate expiry. You should renew the corresponding certificate to address this issue.

The management certificate expiry check applies to ASA and FDM-managed devices, while the Secure Client certificate expiry check applies to ASA, FDM-managed, and FTD devices.

View Certificate Expiry Notification

In the top right corner, click the **Notifications** () icon to view the most recent alerts that have occurred or affected the devices you have onboarded to your tenant. The **High Priority** section displays the certificate expiration notifications.

These notifications are sent 30, 14, and 7 days before the certificate expiration date and then every day thereafter until the certificate either expires or is renewed with a valid certificate. You can also subscribe to receive these notifications by email on the **Notification Settings** section of the user preferences page. For more information, see [User Notification Preferences](#).

Write a device note

Learn how to write a device note in Security Cloud Control Firewall Management.

Use this procedure to create a single, plain-text, note file for a device.

Procedure

1. In the left pane, click **Security Devices**.
 2. Click the **Devices** tab to locate the device or the **Templates** tab to locate the model device.
 3. Click the appropriate device type tab.
 4. Select the device or model you want to create a note for.
 5. In the **Management** pane on the right, click **Notes**.  [Notes](#).
 6. Click the editor button on the right and select the Default text editor, Vim, or Emacs text editors.
 7. Edit the Notes page.
 8. Click **Save**.
The note is saved in the tab.
-

Delete a device from Security Cloud Control Firewall Management

Learn how to delete a device from Security Cloud Control Firewall Management.

Follow these steps to delete a device from Security Cloud Control Firewall Management:

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. Choose **Security Devices**.
3. Select the device you want to delete.
4. Click **Remove** in the **Device Actions** pane.
5. To confirm device removal, click **OK**.

To keep the device onboarded, click **Cancel**.

Manage security devices

Learn how to manage security devices in Security Cloud Control Firewall Management.

Security Cloud Control Firewall Management provides the ability to view, manage, filter, and evaluate your onboarded devices on the **Security Devices** page. From the **Security Devices** page you can:

- [Onboard devices and services for Security Cloud Control management.](#)
- View the configuration state and connectivity state of managed devices and services.
- View onboarded devices and templates categorized in separate tabs. See [Security devices overview](#) on page 74.
- Evaluate and take action on individual devices and services.
- View device and service specific information and resolve issues.
- View device health status for threat defense devices managed by:
 - [Cloud-Delivered Firewall Management Center](#)
 - [on-premises Firewall Management Center](#)

For threat defense devices managed by the Cloud-Delivered Firewall Management Center, you can also see the node status for devices in a cluster.

- Search for a device or template by name, type, IP address, model name, serial number, or labels. Search is not case-sensitive. Providing multiple search terms brings up devices and services that match at least one of the terms. See [Page Level Search](#) on page 76.
- Filter for a device or template filter by device type, hardware and software versions, snort version, configuration status, connection states, conflict detection, and secure device connectors, and labels. See [Filters](#).
- Delete a device

Back up Firewall Threat Defense devices

Learn about backing up Firewall Threat Defense devices managed by Security Cloud Control Firewall Management.

To know how to back up Security Cloud Control-managed Firewall Threat Defense device types, use the following references:

Back Up Firewall Threat Defense devices managed by Cloud-Delivered Firewall Management Center

- In the Security Cloud Control left pane, choose **Administration > Firewall Management Center**.
- Choose **Cloud-delivered FMC** under the **FMC** tab.
- Click **Devices** on the right pane to navigate to the Cloud-Delivered Firewall Management Center.
- Continue to follow the steps in [Back Up a Threat Defense Device from Cloud-delivered Firewall Management Center](#).

Back Up Firewall Threat Defense devices managed by On-Premises Firewall Management Center onboarded to Security Cloud Control Firewall Management

- In the Security Cloud Control left pane, choose **Administration > Firewall Management Center**.
- Choose the On-Premises Firewall Management Center whose Firewall Threat Defense devices you want to back up.
- Click **FMC Cross Launch URL** on the right pane to navigate to the on-premises Firewall Management Center or manually log in to the on-premises Firewall Management Center.
- Continue to follow the steps in *Back up a Device from the Management Center* in the [Cisco Secure Firewall Management Center Administration Guide](#).

Back up Firewall Threat Defense devices managed by Firewall Device Managers onboarded to Security Cloud Control Firewall Management

Follow the steps in [Back up an FDM-managed Device](#).

Manage Firewall Threat Defense devices through Security Cloud Control Firewall Management

Learn how to manage Firewall Threat Defense devices through Security Cloud Control Firewall Management.

Before you begin

Security Cloud Control Firewall Management provides a unified interface to manage Firewall Threat Defense devices, both in hardware and virtual formats.

Firewall Threat Defense devices associated with these three management applications can be managed on the Security Cloud Control platform:

- Secure Firewall Device Manager
- Secure Firewall Management Center
- Secure Cloud-Delivered Firewall Management Center

Procedure

1. Log in to the Security Cloud Control platform.
2. In the left pane, click **Security Devices**.
3. Click the **FTD** tab.

4. Click  at the top-left corner.

Under **Devices/Services**, the filter pane provides filters that display Firewall Threat Defense devices based on the management application through which they are accessed from Security Cloud Control.

- **FDM**: Firewall Threat Defense device managed by Firewall Device Manager
- **FMC-FTD**: Firewall Threat Defense devices managed by Firewall Management Center
- **FTD**: Firewall Threat Defense devices managed by Cloud-Delivered Firewall Management Center

5. To view the Firewall Threat Defense devices under a management application, check the corresponding check box.
-

Security devices overview

Learn how to view onboarded devices and templates on the Security Devices page in Security Cloud Control, apply filters, and identify devices nearing hardware end-of-life for support planning and reporting.

The **Security Devices** page displays all the physical and virtual onboarded devices and the templates created from the onboarded devices. The page classifies devices and templates based on their type and displays them in the corresponding tabs dedicated to each device type.

You can view the following details on the **Security Devices** page:

- The **Devices** tab displays all the live devices that are onboarded to Security Cloud Control.
- The **Templates** tab displays all the template devices created from live devices or configuration files imported to Security Cloud Control.

Filters in security devices

The **Filter** panel on the **Security Devices** page provides multiple options to narrow down results and find devices based on specific attributes, including **Devices/Services, Hardware Versions, Device End-of-Life, Software Versions, Snort Version, Configuration Status, Connectivity States, Conflict Detection, Health Status, Secure Device Connectors, and Labels**.

The Hardware End-of-Life (EoL) Filter

The **Hardware End-of-Life (EoL) filter** allows you to identify devices that are nearing or have reached their last day of hardware support. Running unsupported hardware may pose operational and security risks because Cisco no longer provides software updates, security patches, or technical support after the EoL date.



Note

The Hardware EoL filter currently supports Firewall Threat Defense devices managed by on-premises Firewall Management Center and Cloud-Delivered Firewall Management Center, and ASA devices.

Procedure

1. In the **Devices** tab, click the filter icon.
2. From the list of available filters, under **Device End-of-Life**, select **Hardware End-of-Life**.

The list now displays all devices that are approaching or have reached their hardware end-of-life.

3. Select a device to view more information on the right pane.
4. Scroll down to the **Device End of Life** section to view the following details:
 - The exact end-of-life date.
 - Remaining time until the last day of support.

5. Click **Know more**.

You can view a detailed page that provides the following information:

- Cisco's recommended replacement devices with product specifications, along with links to view the official data sheets.

- Guidance on submitting a request through the [Contact Cisco page](#) and options to connect directly with Cisco experts.
- Information on Cisco's [product recycling program](#).

6. Click **Export** to download the device report in CSV format for offline analysis.

Security Cloud Control Firewall Management labels and filtering

Learn how to use Security Cloud Control Firewall Management labels to group devices and objects, create label groups, and filter device or object tables by assigned labels.

Labels are used for grouping devices or objects. You can apply labels to one or more devices during onboarding or any time after onboarding. You can apply labels to objects after creating them. Once you apply labels to devices and objects, you can filter the contents of the device table or objects table using the corresponding label.



Note

A label that is applied to a device is not extended to its associated objects, and a label applied to a shared object is not extended to its associated objects.

You can create a label group by using the syntax group name:label, for example, Region:East or Region:West. If you create these two labels, the group label would be Region and you could choose from East or West in that group.

Apply Labels to Devices and Objects

To apply a label to devices, perform these steps:

Procedure

1. In the left pane, click **Security Devices**.
 2. In the left pane, click **Objects**.
 3. Click the **Devices** tab to locate a device or the **Templates** tab to locate the model device.
 4. Click the appropriate device type tab.
 5. Select one or more devices.
 6. In the **Add Groups and Labels** field on the right, specify a label for the devices.
 7. Click the  icon.
-

Labels and Tags in AWS VPC

When you onboard an AWS VPC to Security Cloud Control, Security Cloud Control reads all AWS VPC tags as part of the configuration. That is, they are copied from AWS and stored in Security Cloud Control's database. These tags are represented as Security Cloud Control labels, which can be viewed on the **Security Devices** page, just like labels on any other device type. If you delete the existing labels or create new labels from Security Cloud Control, these changes are not synchronized to the AWS VPC. You must manually make the same changes using the AWS console. VPC Tags that are created or modified in the AWS console after the AWS VPC has been onboarded will not be stored in Security Cloud Control's copy of the configuration or detected as an out-of-band change.

Filters on security devices, policies, and objects page

Learn how to filter devices, policies, and objects by attributes such as device type, status, version, connector, management application, and labels.

Use filters on the **Security Devices**, **Policies**, and **Objects** pages to find devices and objects. To filter, select the filter icon in the left pane.

On the **Security Devices** page, the filter panel lets you filter devices by criteria such as device type, hardware version, software version, Snort version, configuration status, connection state, conflict detection, Secure Device Connector, and labels. You can apply filters within the selected device type tab.

When the **FTD** tab is open, the filter panel also lets you filter FTD devices by the management application that Security Cloud Control uses to access them.

To filter, click  in the left-hand pane of the Security Devices, Policies, and Objects tabs.



Note

When the **FTD** tab is opened, the filter pane provides filters to show FDM-managed devices based on the management application through which the devices are accessed from Security Cloud Control.

- FDM: Devices managed using FTD API or Firewall Device Manager.
- FMC-FTD: Devices managed using Firepower Management Center.
- FTD: Devices managed using FTD Management.

Use Security Cloud Control Firewall Management search functionality

Learn how to search in Security Cloud Control Firewall Management using page-level search and global search to find devices, policies, objects, VPN entries, change logs, and jobs across your tenant.

The Security Cloud Control Firewall Management platform has a highly efficient search function that makes it easy to find anything you need. The search bar on each page is tailored to the content of that page, while the global search allows for a comprehensive search across the entire tenant. This saves time and effort, as you can quickly locate the necessary information.

Page Level Search

The page-level search enables you to search specific items on the Security Devices, Policies, Objects, VPN, Change Log, and Jobs pages.

- In the **Security Devices** space, you can simply start typing in the search bar, and devices that fit the search criteria will be displayed. You can type any partial part name of the device, IP address, or the serial number of the physical device to find the device.
- In the **Policies** space, you can search policies by their name, components or objects used in them.
- In the **Objects** space, you can search for an object by typing any partial part of the name of the object, or partial IP Address, port, or protocols.
- In the **VPN** space, you can search by tunnel name, device name, and IP address used in the VPN policies.
- In the **Change log** space, you can search logs based on events, device names, or actions.

Procedure

1. Navigate to the search bar near the top of the interface.
 2. Type the search criteria into the Search Bar and the corresponding results will be displayed.
-

7 Configure AWS Devices

Topics:

- [Update AWS VPC connection credentials](#)
- [Monitor AWS VPC tunnels using AWS transit gateway](#)
- [Search and filter site-to-site VPN tunnels](#)
- [View AWS VPC tunnel history](#)
- [AWS VPC Policy](#)

This chapter covers the following sections:

Update AWS VPC connection credentials

Learn how to update AWS VPC connection credentials so Security Cloud Control Firewall Management can continue communicating with onboarded AWS resources.

If you create a new access key and secret access key to connect to the AWS VPC, you must update the connection credentials in Security Cloud Control Firewall Management. To do this, first update the credentials in the AWS console. Next, update the credentials in the Security Cloud Control Firewall Management console by using this procedure. For more information, refer to *Managing Access Keys for IAM Users* (https://docs.aws.amazon.com/IAM/latest/UserGuide/id_credentials_access-keys.html) or *Creating, Disabling, and Deleting Access Keys for Your AWS Account Root User* (<https://docs.aws.amazon.com/general/latest/gr/managing-aws-access-keys.html>).

You **cannot** change the access key or secret access key from Security Cloud Control Firewall Management. You must manually manage the connection credentials using the AWS console or the AWS CLI console.



Note

If multiple AWS VPCs are onboarded to your Security Cloud Control Firewall Management tenant, you must update the credentials for one device at a time.

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. Choose **Security Devices**.
3. Click the **Devices** tab, and then click **AWS VPC**.
4. Select the AWS VPC whose connection credentials you want to update.
Use the [filter](#) and [search](#) functionalities to find the required device.
5. Under **Device Actions**, click **Update Credentials**.
6. Enter the new **Access Key** and **Secret Access Key**, which you want to use to connect to the AWS VPC.
7. Click **Update**.



Note

If Security Cloud Control fails to sync the device, the connectivity status in Security Cloud Control may display "Invalid Credentials." If this occurs, you may have entered an invalid username and password combination. For more information about troubleshooting invalid credentials, refer to [Troubleshoot Invalid Credentials](#) on page 136

Monitor AWS VPC tunnels using AWS transit gateway

Learn how to monitor AWS VPC tunnel connectivity in Security Cloud Control Firewall Management using AWS Transit Gateway and run on-demand checks for active or idle VPN tunnel status.

Amazon Web Services (AWS) Transit Gateway acts as a cloud router. It connects enterprise virtual private clouds (VPCs) to AWS VPCs through a central hub, which allows for simplified peering relationships.

Security Cloud Control Firewall Management allows you to monitor the connection status of your onboarded AWS VPCs using AWS Transit Gateway.

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. Choose **Secure Connections** > **Network Connections** > **Site to Site VPN**.

The **VPN Tunnels** page displays the connection status for all network tunnels managed by your Security Cloud Control tenant. The connection status for the VPN tunnel can be [active](#) or [idle](#).

3. Select a VPC, and then under **Actions**, click **Check Connectivity**. This triggers a real-time connectivity check against the tunnel and identifies whether the tunnel is currently [active](#) or [idle](#). If you do not click the on-demand connectivity check link, a check across all tunnels on all onboarded devices occurs every ten minutes.



Note

Security Cloud Control prompts a notification if the connection of a VPN tunnel goes down. No notification appears when the link comes back up.

Search by tunnel name, device name, or IP						
Name	Status	Peer 1 Name	Peer 1 IP	Peer 2 Name	Peer 2 IP	Last active
VPN 1	Idle	abc-q1w2e3r4t5y6u7i8 AWS VPC	209.165.200.230	def-o9p0s1a2f3g4h5j6 Unknown	209.165.201.31	4/8/22 7:12 AM
VPN 1	Active	abc-q1w2e3r4t5y6u7i8 AWS VPC	209.165.202.148	def-o9p0s1d2f3g4h5j6 Unknown	209.165.201.31	5/10/22 2:32 PM

Search and filter site-to-site VPN tunnels

Learn how to search and filter site-to-site VPN tunnels in Security Cloud Control Firewall Management.

Use the filter sidebar  in combination with the search field to focus your search of VPN tunnels presented in the VPN tunnel diagram.

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. Choose **Secure Connections** > **Network Connections** > **Site to Site VPN**.
3. Click the filter icon  to open the filter pane.
4. Use these filters to refine your search:
 - **Filter by Device:** Click **Filter by Device**, select the device type tab, and check the devices you want to find by filtering.

- **Tunnel Issues:** Indicates whether issues have been detected on either side of the tunnel. For example, a device may be missing an associated interface, peer IP address, access list, or may have IKEv1 proposal mismatches. (Detecting tunnel issues is not yet available for AWS VPC VPN tunnels.)
 - **Devices/Services:** Filters by type of device.
 - **Status:** Indicates tunnel status, which can be active or idle.
 - **Active:** An open session exists in which network packets traverse the VPN tunnel, or a successful session was established that has not timed out yet. The "Active" status indicates that the tunnel is operational and relevant.
 - **Idle:** Security Cloud Control is unable to discover an open session for this tunnel. The tunnel may either be not in use or there is an issue with this tunnel.
 - **Onboarded:** Devices could be managed by Security Cloud Control or not managed (unmanaged) by Security Cloud Control.
 - **Managed:** Filters by devices that Security Cloud Control manages.
 - **Unmanaged:** Filters by devices that Security Cloud Control does not manage.
 - **Device Types:** Indicates whether either side of the tunnel is a live (connected) or model device.
5. You can also search the filtered results by device name or IP address by entering that information in the search bar. The search is case-insensitive.
-

View AWS VPC tunnel history

Learn how to view AWS VPC tunnel history in Security Cloud Control Firewall Management by filtering the Change Log for a specific AWS VPC.

To view a history of changes made to AWS VPC tunnels, follow these steps.

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
 2. Choose **Events & Logs > Logs > Change Log**.
 3. On the **Change Log** page, click the filter icon, select the **Filter by device** tab, and then click **AWS VPC**.
 4. Select the AWS VPC whose history you want to review, and click **OK**.
-

Related Information

[Manage change logs in Security Cloud Control](#) on page 113

AWS VPC Policy

Learn how to manage AWS VPC policies and security group rules in Security Cloud Control Firewall Management to define inbound and outbound traffic, update rules, and deploy policy changes to selected AWS VPCs.

Security Cloud Control Firewall Management enables you to keep security policies consistent across any Amazon Web Services (AWS) Virtual Private Cloud (VPC) associated with your AWS account. You can also use Security Cloud Control Firewall Management to share objects across multiple device types. See these topics for more information.

AWS VPC Security Groups Rules

AWS security groups are collections of rules that govern inbound and outbound network traffic to all AWS EC2 instances, and other entities, associated with the security group. Similar to the Amazon Web Services (AWS) console, Security Cloud Control displays each rule individually.

If your SDC has Internet access, you can create and manage AWS Virtual Private Cloud (VPC) rules for these environments:

- A security group allowing information to or from another security group within the same AWS VPC.
- A security group allowing to or from an IPv4 or IPv6 address.

When creating a rule in Security Cloud Control that contains an AWS security group, keep these limitations in mind:

- For a rule allowing inbound traffic, the source can be one or more security group objects in the same AWS VPC, an IPv4 or IPv6 CIDR block, or a single IPv4 or IPv6 address. Inbound rules can have only **one** security group object as the destination.
- For a rule allowing outbound traffic, the destination can be one or more security group objects in the same AWS VPC, a prefix list ID, an IPv4 or IPv6 CIDR block, a single IPv4 or IPv6 address. Outbound rules can have only **one** security group object as the source.
- Security Cloud Control translates rules that contain multiple entities, such as more than one port or subnet, into separate rules before deploying them to an AWS VPC.
- When you add or remove rules, the changes are automatically applied to all AWS entities associated with the security group.
- An AWS security group is limited to hosting a maximum of 60 inbound rules and 60 outbound rules. This limit is enforced separately for IPv4 rules and IPv6 rules; any additional rules created in Security Cloud Control are inclusive to the total number of rules. You cannot exceed the 60-rule limit by onboarding to Security Cloud Control.



Warning

If you edit an existing rule, the system deletes the edited rule and creates a new rule with the updated details. As a result, traffic that depends on the rule may be dropped briefly during the update process. This does not occur if you create a brand new rule.

For more information about the types of rules you can create from the AWS console, refer to [AWS Security Group Object](#).

Related Information

- [Create a Security Group Rule](#) on page 82
- [Edit a Security Group Rule](#) on page 84
- [Delete a Security Group Rule](#) on page 85

Create a Security Group Rule

By default, Amazon Web Services (AWS) Virtual Private Cloud (VPC) blocks all network traffic. As a result, any rules are automatically configured to **Allow** traffic. You cannot edit this action.

 Note

When you create a new security group rule, you must associate it with a security group.

The AWS console does not support rules that contain more than one source or destination. This means that if you deploy a single security group rule that contains more than one entity, Security Cloud Control converts the rule into separate rules before deploying it to the AWS VPC. For example, if you create an inbound rule that allows traffic from two port ranges into one cloud security group object, Security Cloud Control converts it into two separate rules. One allows traffic from the first port range to the security group, and the other allows traffic from the second port range to the security group.

Use this procedure to create a security group rule:

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. Choose **Security Devices**.
3. Click the **Template** tab.
4. Click the **AWS** tab, and select the AWS VPC device template whose access control policy you want to edit.
5. In the Management pane, select **Policy**.



6. Click the blue plus button next to the security group you wish to add the rule to.



7. Click **Inbound** or **Outbound**.

Inbound rules: The source network can contain one or multiple IPv4 addresses, IPv6 addresses, or cloud security group objects. The destination network **must** be defined as a single cloud security group object.

Outbound rules: The source network **must** be defined as a single cloud security group object. The destination network can contain one or multiple IPv4 addresses, IPv6 addresses, or security group objects.

8. Enter the rule name. You can use alphanumeric characters, spaces, and the special characters plus, period, underscore, and hyphen.
9. Define the traffic matching criteria by using any combination of attributes in the following tabs.

Source : Click the **Source** tab and add or remove networks (which includes networks and continents). You cannot define a port or port range as the source.

Destination: Click the **Destination** tab and add or remove networks (which includes networks and continents), or ports on which the traffic arrives. The default value is "Any."

**Note**

If no network object is defined, it will be translated into two rules in the AWS Console: one for IPv4 (0.0.0.0/0) and one for IPv6 (::0/0).

10. Click **Save**.

11. [Review and deploy](#) the changes you made immediately, or wait and deploy multiple changes at once.

**Caution**

If the deploy fails, Security Cloud Control tries to restore the AWS VPC to its previous state. This is done on a "best-effort" basis. Because AWS does not maintain a "state," this rollback attempt might fail. If this happens, log in to the AWS management console and manually restore the AWS VPC configuration and then [read the changes](#) into Security Cloud Control.

Edit a Security Group Rule

Use this procedure to edit an access control rule for an AWS VPC using Security Cloud Control:

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. Choose **Security Devices**.
3. Click the **Devices** tab to locate the device, or click the **Templates** tab to locate the model device.
4. Click the **AWS** tab and select the AWS VPC whose access control policy you want to edit.
5. In the **Management** pane, select  **Policy**.
6. To edit an existing security group rule, select the rule and click the edit icon  in the **Actions** pane. You can also make simple edits inline without entering edit mode. For more information about rule limitations and exceptions, refer to [AWS VPC Security Group Rules](#).
7. Click **Save**.
8. [Review and deploy](#) the changes you made immediately, or wait and deploy multiple changes at once.

**Caution**

If the deployment fails, Security Cloud Control tries to restore the AWS VPC to its previous state. This is done on a "best-effort" basis. Because AWS does not maintain a "state," this rollback attempt might fail. If this happens, log in to the AWS management console and manually restore the AWS VPC configuration. Then poll for differences between the AWS VPC device configuration and the configuration in Security Cloud Control.

Delete a Security Group Rule

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. Choose **Security Devices**.
3. Click the **Devices** tab to locate the device, or click the **Templates** tab to locate the model device.
4. Click the **AWS** tab and select the AWS VPC whose access control policy you want to edit.
5. In the **Management** pane, select  **Policy**.
6. To delete a security group rule you no longer need, select the rule and click the delete icon  in the **Actions** pane.
7. [Review and deploy](#) the changes you made immediately, or wait and deploy multiple changes at once.



Caution

If the deployment fails, Security Cloud Control tries to restore the AWS VPC to its previous state. This is done on a "best-effort" basis. Because AWS does not maintain a "state," this rollback attempt might fail. If this happens, log in to the AWS management console and manually restore the AWS VPC configuration. Then poll for differences between the AWS VPC device configuration and the configuration in Security Cloud Control.

8 Manage objects

Topics:

- [Introduction to objects](#)
- [Network objects](#)
- [Service objects](#)

This chapter describes how to create and manage reusable objects.

Introduction to objects

Learn how objects help you reuse network, URL, and service values across policies and manage object issues from the Objects page.

An object is a reusable container of information that you can use in one or more security policies. Objects help you maintain policy consistency because you can define a value once, use it in multiple policies, and update every policy that uses the object by changing the object.

When you onboard a device, Security Cloud Control Firewall Management recognizes all the objects used by that device, saves them, and lists them on the **Objects** page. From the **Objects** page, you can edit existing objects and create new ones to use in your security policies.

Security Cloud Control Firewall Management calls an object used on multiple devices a **shared object** and identifies them in the **Objects** page with this badge .

You can use Security Cloud Control Firewall Management to manage objects in these ways:

- Search for and [filter all your objects](#) based on a variety of criteria.
- Find duplicate, unused, and inconsistent objects, and then consolidate, delete, resolve, ignore, or unignore object issues.
- Find and delete unassociated objects if they are not needed.
- Discover objects that are shared across devices.
- Evaluate which policies and devices are affected before you commit an object change.
- Compare a set of objects and their relationships with different policies and devices.
- Capture objects that are in use after a device is onboarded to Security Cloud Control Firewall Management.

Sometimes a shared object develops some "issue" and is no longer perfectly shared across multiple policies or devices:

- **Duplicate objects:** Two or more objects on the same device have different names but the same values. These objects usually serve similar purposes and are used by different policies. Duplicate objects are identified by this issue icon: .
- **Inconsistent objects:** Two or more devices have objects with the same name but different values. This issue can occur when objects start with the same name and content but later diverge. Inconsistent objects are identified by this issue icon: .
- **Unused objects:** An object exists in a device configuration but is not referenced by another object, an access list, or a NAT rule. Unused objects are identified by this issue icon: .

You can also create objects for immediate use in rules or policies. You can create an object that is unassociated with any rule or policy. When you use that unassociated object in a rule or policy, Security Cloud Control Firewall Management creates a copy of it and uses the copy.

You can view the objects managed by Security Cloud Control Firewall Management by navigating to the **Objects** menu or by viewing them in the details of a network policy.

If you have issues with creating, editing, or reading objects from an onboarded device, see [Troubleshoot Security Cloud Control](#) for more information.

Supported object types

An overview of supported object types for devices, including identity certificates, trusted CA certificates, CSR handling, export, edit, and deletion tasks.

The object types that you can create and manage depend on the managed device type.

Common object types

Table 3: Common Objects

Object Type	Description
Network	Network groups and network objects (collectively referred to as network objects) define the addresses of hosts or networks.
URL	Use URL objects and groups (collectively referred to as URL objects) to define the URL or IP addresses of web requests. You can use these objects to implement manual URL filtering in access control policies or blocking in Security Intelligence policies.

Shared objects

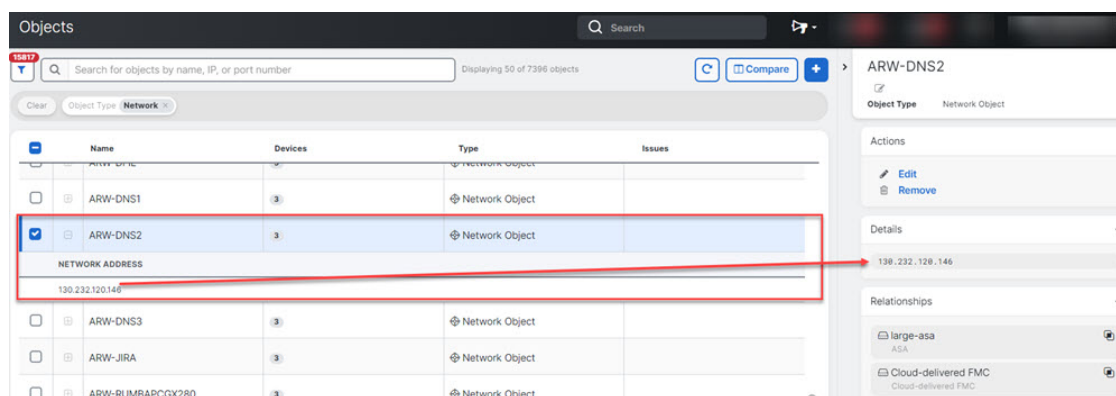
A shared object is an object on multiple devices that has the same name and the same contents. Shared objects help you maintain policies because one object change affects every policy that uses that shared object.

Shared objects are identified by this icon



on the **Objects** page. Shared objects make it easy to maintain policies because you can modify an object in one place and that change affects all the other policies that use that object. Without shared objects, you would need to modify all the policies individually that require the same change.

When looking at a shared object, Security Cloud Control shows you the contents of the object in the object table. Shared objects have exactly the same contents. Security Cloud Control shows you a combined or "flattened" view of the elements of the object in the details pane. Notice that in the details pane, the network elements are flattened into a simple list and not directly associated with a named object.



Object Overrides

An object override lets you customize a shared object for specific devices. When a device has an override, Security Cloud Control Firewall Management uses the override value for that device instead of the object's default value.

Overrides allow you to maintain a single shared policy across devices while tailoring individual object values where needed.

Use overrides when you want to maintain one shared policy across devices but need specific devices to use different object values. For example, a shared print-server object can use the default value 10.1.1.100 for most offices, while Office B uses an override value of 10.2.1.100.

Overrides on network object groups

For network object groups, overrides fully replace the default values for the devices that are assigned to the override. A device with an override receives only the override values, not the default values.

This replacement behavior has these effects:

- Changes to default values affect only devices without overrides.
- Changes to an override affect only the devices assigned to that override.
- If a device needs the default values plus a local value, add all required values to the override.

For example, a shared dns-servers network group contains default values primary-dns (10.0.1.53) and secondary-dns (10.0.2.53) for Branch A, Branch B, and Branch C. Branch C also needs local-dns-cache (10.30.1.53). Because a network group override replaces the defaults, the Branch C override must contain primary-dns, secondary-dns, and local-dns-cache.

If you later add a default value, such as tertiary-dns, Branch A and Branch B receive the new default value automatically. Branch C does not receive it until you add tertiary-dns to the Branch C override.

The screenshot shows the 'Editing Network Group' dialog box. It has a title bar with a close button. Below the title bar are two tabs: 'Devices' (showing 3 Devices) and 'Usage' (showing 0 Rule Sets). There is a text field for 'Object Name' and a text area for 'Description'. Below these is a section titled 'Default Values' with a dropdown arrow. Under this section is a text input field with the placeholder 'To add an object, enter a value or object name'. Below that is a table with two columns: 'Name' and 'Value'. The table has two rows of default values and one row for 'network-group10' which shows '1 value(s)'. Each row has a '1 Override' button and a trash icon. At the bottom right are 'Cancel' and 'Save' buttons.

Unassociated objects

An unassociated object is not associated with any rule or policy. When you use an unassociated object in a rule or policy, Security Cloud Control Firewall Management creates and uses a copy of that object. The original unassociated object remains available until a nightly maintenance job deletes it or you delete it manually.

Security Cloud Control Firewall Management keeps unassociated objects as a copy so that configuration data is not lost if the related rule or policy is deleted accidentally.

To view unassociated objects, choose **Objects** > , and check **Unassociated**.

Compare objects

Use object comparison to review up to three objects side by side and inspect their details and relationships.

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. In the left pane, click **Objects** and choose an option.
3. Filter the objects on the page to find the objects you want to compare.
4. Click the **Compare** button  **Compare**.
5. Select up to three objects.
6. Review the objects side-by-side at the bottom of the screen.

7. (Optional) In **Relationships**, select a device name, and then select **View Configuration** to view the device configuration with the object entry highlighted.

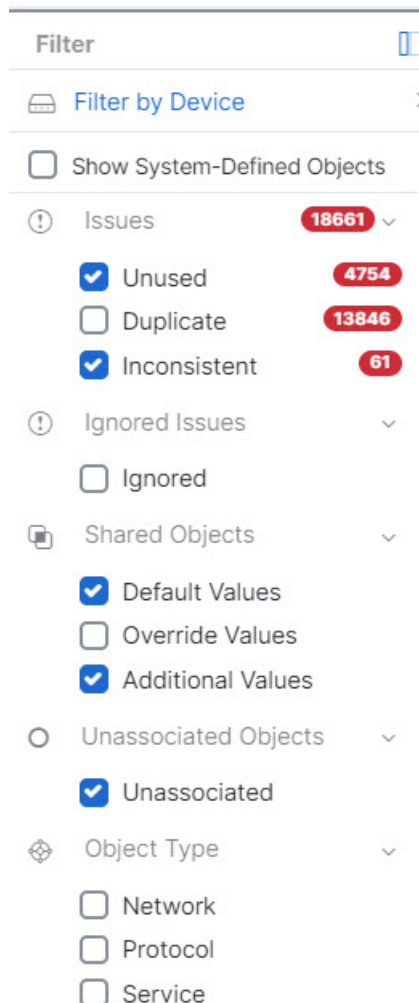
Object filters

Learn how to filter objects in Security Cloud Control by device, issue, shared state, association state, object type, system-defined status, and search value to find targeted object results.

Use filters on the **Objects** page to find objects by device, issue, shared state, association state, object type, or search value. You can also include or exclude system-defined objects.

The object type filter lets you filter by object types such as network object, network group, URL object, URL group, service object, and service group. The shared objects filter lets you filter objects that have default values, override values, or additional values.

You can combine device and object filters to create focused search strategies. For example, you can search for objects that match this logic: **Issues** is **Unused** OR **Inconsistent**, AND **Shared Objects** has **Default Values** OR **Additional Values**, AND **Unassociated Objects** is selected.



Filter

Filter by Device

Show System-Defined Objects

Issues 18661

- ☒ Unused 4754
- ☐ Duplicate 13846
- ☒ Inconsistent 61

Ignored Issues

- ☐ Ignored

Shared Objects

- ☒ Default Values
- ☐ Override Values
- ☒ Additional Values

Unassociated Objects

- ☒ Unassociated

Object Type

- ☐ Network
- ☐ Protocol
- ☐ Service

To filter, click  in the left-hand pane of the Objects tab:

- **Filter by Device:** Shows objects found on selected devices.

- **Show System-Defined Objects:** Includes predefined system objects in search and filter results. System objects cannot be edited or deleted. Some devices come with predefined objects for common services. These system objects are convenient because they are already made for you and you can use them in your rules and policies. There can be many system objects in the objects table. System objects cannot be edited or deleted.
- **Issues:** Shows unused, duplicate, or inconsistent objects. If you select more than one issue, objects in any selected issue category are included.
- **Ignored Issues:** Shows objects whose issues were ignored by an administrator.
- **Shared Objects:** Shows shared objects. You can filter by default values, override values, additional values, or a combination.
- **Unassociated Objects:** Shows objects that are not associated with any rule or policy.
- **Object Type:** Shows selected object types, such as network objects, network groups, URL objects, URL groups, service objects, and service groups.

Within a main filter, subfilters can further narrow the results by object type, such as Network, Service, or Protocol. Filters across categories combine with an AND relationship. Multiple selections within a category can combine with an OR relationship.

For example, a filter set can search for objects that match this logic: objects on selected devices AND inconsistent objects AND network objects or service objects AND object names that contain **group**.

Configure object filters

You can filter on as few or as many criteria as you want. The more categories you filter by, the fewer results you should expect.

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. In the left pane, click **Objects**.
3. Open the filter panel by clicking the filter icon  at the top of the page. Uncheck any filters that have been checked to make sure no objects are inadvertently filtered out.
4. If you want to restrict your results to those found on particular devices:
 - a. Click **Filter By Device**.
 - b. Search all the devices or click a device tab to search for only devices of a certain kind.
 - c. Check the device you want to include in your filter criteria.
 - d. Click **OK**.
5. Check **Show System Objects** to include system objects in your search results. Uncheck **Show System Objects** to exclude system objects from your search results.
6. Check the object **Issues** you want to filter. If you check more than one issue, objects in any of the categories you check are included in your filter results.
7. Check **Ignored** issues if you want to see the object that had issues but was ignored by the administrator.
8. Check the required filter in **Shared Objects** if you are filtering for objects shared between two or more devices.
 - **Default Values:** Filters objects having only the default values.
 - **Override Values:** Filters objects having overridden values.
 - **Additional Values:** Filters objects having additional values.

9. Check **Unassociated** if you are filtering for objects that are not part of any rule or policy.
10. Check the **Object Types** you want to filter.
11. You can also add an object name, IP address, or port number to the Objects search field to find objects with your search criteria among the filtered results.

Exclude device filters when you need full relationships

When you filter by device, Security Cloud Control Firewall Management shows objects on that device but does not show the object's relationships to all other devices.

For example, if ObjectA is shared between ASA1 and ASA2, and you filter for shared objects on ASA1, Security Cloud Control Firewall Management shows `ObjectA`, but the **Relationships** pane shows only that ObjectA is on ASA1.

To view every device and policy relationship for an object, do not specify a device in the filter criteria. Filter by other criteria, select the object, and review the **Relationships** pane.

Delete objects

You can delete a single object or multiple objects.

Delete a single object



Note

If Cloud-Delivered Firewall Management Center is deployed on your tenant:

Changes you make to the ASA, FDM, and FTD network objects and groups are reflected in the corresponding Cloud-Delivered Firewall Management Center network object or group. In addition, an entry is created in the **Devices with Pending Changes** page for each on-premises Firewall Management Center with **Discover & Manage Network Objects** enabled, from which you can choose and deploy the changes to the on-premises Firewall Management Center on which you have these objects.

Deleting a network object or group from either page deletes the object or group from both pages.

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. In the left pane, click **Objects**.
3. Locate the object you want to delete by using object filters and the search field, and select it.
4. Review the **Relationships** pane. If the object is used in a policy or in an object group, you cannot delete the object until you remove it from that policy or group.
5. In the **Actions** pane, click the **Remove** icon .
6. Confirm that you want to delete the object by clicking **OK**.
7. [Review and deploy](#) the changes you made, or wait and deploy multiple changes at once.

Delete a group of unused objects

As you onboard devices and start resolving object issues, you find many unused objects. You can delete up to 50 unused objects at a time.

Procedure

1. Use the **Issues** filter to find **unused** objects. You can also use the Device filter to find objects that are not associated with a device by selecting **No Device**.
2. Check the **Select all** checkbox in the object table header to select all the objects found by the filter that appear in the object table; or, check individual checkboxes for individual objects you want to delete.
3. In the **Actions** pane, click the **Remove** icon .
4. [Review and deploy](#) now the changes you made, or wait and deploy multiple changes at once.

Network objects

Learn how to manage network objects and network groups for hosts, networks, IP ranges, FQDNs, access rules, policies, and NAT rules.

A network object can contain a host name, a network IP address, a range of IP addresses, a fully qualified domain name (FQDN), or a subnetwork expressed in CIDR notation. **Network groups** are collections of network objects and other individual addresses or subnetworks that you add to the group. Network objects and network groups are used in access rules, network policies, and NAT rules. You can create, update, and delete network objects and network groups using Security Cloud Control.

Not all platforms support network objects, such as Cisco Meraki and Multicloud Defense; when you share dynamic objects, Security Cloud Control Firewall Management automatically translates the appropriate information from the originating platform or device into a set of usable information that Security Cloud Control Firewall Management can use.

Reuse network objects across products

If you have a Security Cloud Control tenant with a Cloud-Delivered Firewall Management Center and one or more on-premises Firewall Management Centers onboarded to your tenant:

- When you create a Secure Firewall Threat Defense, FDM-managed Firewall Threat Defense, ASA, or Meraki network object or group, a copy of the object is also added to the objects list on the **Objects** page used when configuring Cloud-Delivered Firewall Management Center, and vice versa.
- When you create a Secure Firewall Threat Defense, FDM-managed Firewall Threat Defense, or ASA network object or group, an entry is created in the **Devices with Pending Changes** page for each On-Premises Firewall Management Center for which **Discover & Manage Network Objects** is enabled. From this list, you can choose and deploy the object to the on-premises Firewall Management Center on which you want to use the object and discard the ones that you do not want. Navigate to **Administration > Firewall Management Center** select the on-premises Firewall Management Center, and click **Objects** to see your objects in the On-Premises Firewall Management Center user interface and assign them to policies.

Changes you make to network objects or groups on either page apply to the object or group instance on both pages. Deleting an object from one page also deletes the corresponding copy of the object from the other page.

The following exceptions apply:

- If a network object of the same name already exists for Cloud-Delivered Firewall Management Center, the new Secure Firewall Threat Defense, FDM-managed Firewall Threat Defense, ASA, or Meraki network object will not be replicated on the **Objects** page of Security Cloud Control.
- Network objects and groups in onboarded Firewall Threat Defense devices that are managed by on-premises Secure Firewall Management Center are not replicated and cannot be used in Cloud-Delivered Firewall Management Center.

Note that for on-premises Secure Firewall Management Center instances that have been *migrated* to Cloud-Delivered Firewall Management Center, network objects and groups *are* replicated to the Security Cloud Control objects page if they are used in policies that were deployed to FTD devices.

- Sharing Network Objects between Security Cloud Control and Cloud-Delivered Firewall Management Center is automatically enabled on new tenants but must be requested for existing tenants. If your network objects are not being shared with Cloud-Delivered Firewall Management Center, [contact TAC](#) to have the features enabled on your tenant.
- Sharing network objects between Security Cloud Control and On-Premises Firewall Management Center is not automatically enabled on Security Cloud Control for new on-premises Firewall Management Centers onboarded to Security Cloud Control. If your network objects are not being shared with On-Premises Firewall Management Center, ensure the **Discover & Manage Network Objects** toggle button is enabled for the on-premises Firewall Management Center in **Settings** or [contact TAC](#) to have the features enabled on your tenant.

Viewing network objects

Network objects that you create in Security Cloud Control Firewall Management, and network objects that Security Cloud Control Firewall Management recognizes in onboarded device configurations, appear on the **Objects** page. They are labeled with their object type. This allows you to filter by object type to quickly find the object you are looking for.

When you select a network object, the **Details** pane shows the object values. The **Relationships** pane shows whether the object is used in a policy and which device stores the object.

When you select a network group, Security Cloud Control Firewall Management shows the contents of the group as the combined values from the network objects in that group.

Service objects

Learn how service objects represent protocols and ICMP values that Security Cloud Control Firewall Management recognizes and manages in supported device configurations.

Protocol objects

Protocol objects are a type of service object that contain less-commonly used or legacy protocols. Protocol objects are identified by a name and [protocol number](#). Security Cloud Control recognizes these objects in ASA and Firepower (FDM-managed device) configurations and gives them their own filter of "Protocols" so you can find them easily.

ICMP objects

An Internet Control Message Protocol (ICMP) object is a service object specifically for ICMP and IPv6-ICMP messages. Security Cloud Control recognizes these objects in ASA and Firepower configurations when those devices are onboarded and Security Cloud Control gives them their own filter of "ICMP" so you can find the objects easily.

Using Security Cloud Control, you can rename or remove ICMP objects from an ASA configuration. You can use Security Cloud Control to create, update, and delete ICMP and ICMPv6 objects in a Firepower configuration.



Note

For the ICMPv6 protocol, AWS does not support choosing specific arguments. Only rules that allow all ICMPv6 messages are supported.

Related Information:

- [Delete objects](#) on page 92

9 Manage Device Configuration

Topics:

- [Read, discard, and deploy configuration changes](#)
- [Synchronizing configurations between Security Cloud Control and device](#)

To manage a device, Security Cloud Control stores a copy of the device configuration in its local database. When Security Cloud Control reads a configuration from a managed device, it copies and saves the configuration.

Security Cloud Control also reads and saves a copy of a device configuration when the device is onboarded. Each of these actions serves a specific purpose.

- **Discard Changes:** This action is available when a device configuration status is "Not Synced." In the **Not Synced** state, there are changes to the device configuration pending on Security Cloud Control. This option allows you to undo all pending changes. The pending changes are deleted and Security Cloud Control overwrites its copy of the configuration with the copy of the configuration stored on the device.
- **Check for Changes:** This action is available if the device configuration status is "Synced." Click **Check for Changes** to instruct Security Cloud Control to compare its copy of the device configuration with the copy stored on the device. If a difference is detected, Security Cloud Control immediately overwrites its copy of the device configuration with the copy stored on the device.
- **Review Conflict and Accept Without Review:** If you have enabled [Conflict Detection](#) on a device, Security Cloud Control checks for configuration changes made on the device every 10 minutes. If the copy of the configuration stored on the device has changed, Security Cloud Control notifies you by displaying the "Conflict Detected" configuration status.
 - **Review Conflict:** Click **Review Conflict** to review changes made directly on a device and accept or reject them.
 - **Accept Without Review:** This action overwrites the copy of the device configuration on Security Cloud Control with the latest copy of the configuration stored on the device. Security Cloud Control does not prompt you to confirm the differences in the two copies of the configuration before taking the overwriting action.

Read All: This is a bulk operation. You can select any number of devices in any state and click **Read All** to overwrite all the device configurations stored on Security Cloud Control with the configurations stored on the devices.

- **Deploy Changes:** When you make changes to a device configuration, Security Cloud Control saves your changes to its copy of the configuration. These changes remain **Pending** in Security Cloud Control until you deploy them to the device. If there are pending changes that have not been deployed, the device is in the **Not Synced** configuration state.

Pending configuration changes do not affect network traffic. They take effect only after Security Cloud Control deploys them to the device.

When Security Cloud Control deploys changes to a device configuration, only the elements that were changed are overwritten. The entire device configuration file is not overwritten. You can deploy changes to one device or multiple devices simultaneously.

- **Discard All:** This option appears after you click **Preview and Deploy....** When you click **Preview and Deploy...**, Security Cloud Control displays a preview of the pending changes in Security Cloud Control. You can delete all pending changes from Security Cloud Control without deploying them to the selected devices by clicking **Discard All**. Unlike "Discard Changes," deleting the pending changes completes the operation.

Read, discard, and deploy configuration changes

Learn about reading, discarding, and deploying configuration changes in Security Cloud Control Firewall Management.

Read All Device Configurations

If a configuration change is made to a device outside of Security Cloud Control, the device configuration stored on Security Cloud Control and the device's local copy of its configuration are no longer the same. You may want to overwrite Security Cloud Control's copy of the device's configuration with the configuration stored on the device to make the configurations the same again. You can perform this task on many devices simultaneously using the **Read All** link.

For more information about how Security Cloud Control manages the two copies of the device configuration, refer to [Reading, Discarding, Checking for, and Deploying Configuration Changes](#).

Here are three configuration statuses where clicking **Read All** will overwrite Security Cloud Control's copy of the device's configuration with the device's copy of the configuration.

- **Conflict Detected:** If conflict detection is enabled, Security Cloud Control polls the devices it manages every 10 minutes for changes made to their configurations. If Security Cloud Control finds that the configuration on the device has changed, Security Cloud Control displays a "Conflict detected" configuration status for the device.
- **Synced:** If the device is in a synced state, and you click **Read All**, Security Cloud Control immediately checks the devices to determine if there have been any changes made to its configurations directly. After clicking **Read All**, Security Cloud Control confirms your intent to overwrite its copy of the device's configuration and then Security Cloud Control performs the overwrite.
- **Not Synced:** If the device is in the **Not Synced** state, and you click **Read All**, Security Cloud Control warns you that there are pending changes made to the device's configuration using Security Cloud Control and that proceeding with the **Read All** operation will delete those changes and then overwrite Security Cloud Control's copy of the configuration with the configuration on the device. This Read All functions like [Discard Changes](#).

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. Choose **Security Devices**.
3. Click the **Devices** tab.
4. Click the appropriate device type tab.
5. (Optional) Create a [change request label](#) to identify the results of this bulk action easily in the change log.
6. Select the devices whose configurations you want to save in Security Cloud Control.
Security Cloud Control only provides command buttons for actions that can be applied to all the selected devices.
Security Cloud Control warns you if there are configuration changes staged on Security Cloud Control for any of the devices you selected and asks if you want to continue with the bulk reading configurations action.
7. Click **Read All** to continue.
8. Look at the [notifications tab](#) for the progress of the **Read All** configurations operation. If you want more information about how individual actions in the bulk operation succeeded or failed, click the blue **Review** link and you will be directed to the [Jobs page](#).
9. If you created and activated a change request label, remember to clear it so that you don't inadvertently associate other configuration changes with this event.

Related Information

- [Reading, Discarding, Checking for, and Deploying Configuration Changes](#)
- [Discard Changes](#)

- [Check for Changes](#)

Preview and deploy configuration changes for all devices

Learn how to review and deploy pending configuration changes to managed devices in Security Cloud Control, track deployment progress, and verify results in jobs or event logs.

Security Cloud Control informs you when you have made a configuration change to a device in your organization, but you have not deployed that change, by displaying an orange dot on the deploy icon . Each device affected by these changes displays a status of "Not Synced" in the **Security Devices** page. Click **Deploy** to review which devices have pending changes and deploy the changes to those devices.

This deployment method is available for all supported devices.

You can use this deployment method for a single configuration change. Alternatively, you can wait and deploy multiple changes at once.

This deployment method is only available when Security Cloud Control Firewall Management has been onboarded to Security Cloud Control.

Procedure

1. In the menu bar of Security Cloud Control click the **Deploy** button .
 2. Select the devices with changes you want to deploy. If a device displays a yellow caution triangle, you cannot deploy changes to that device. Hover your pointer over the yellow caution triangle to see the reason.
 3. (Optional) If you want to see more information about a pending change, click the **View Detailed Change log** link to open the change log associated with that change. Click the **Deploy** icon to return to the **Devices with Pending Changes** page.
 4. Click **Deploy Now** to deploy the changes immediately to the devices that you selected. You will see the progress in the Active jobs indicator in the Jobs tray.
 5. (Optional) After the deployment has finished, in the **Platform menu**, click Firewall, and then select **Events & Logs** > **Events** > **Jobs**. You will see a recent "Deploy Changes" job showing the results of the deployment.
-

Deploy Changes to a Device

Procedure

1. When you make a configuration change for a device using Security Cloud Control and save it, that change is saved in the Security Cloud Control instance of the device configuration.
2. From the Security Cloud Control Home page, click **Firewall**.
3. Choose **Security Devices**.
4. Click the **Devices** tab.
5. Click the appropriate device type tab. The configuration status of the device will display "Not synced" after you make changes.
6. To deploy the changes, select one of these methods:
 - Select the device and in the "Not Synced" pane, and click **Preview and Deploy**. On the Pending Changes screen, review the changes. If you are satisfied with the pending version, click **Deploy Now**.

After the changes are deployed successfully, you can view the [change log](#) to confirm.

- Click the **Deploy** icon . For more information, refer to [Preview and deploy configuration changes for all devices](#) on page 99.

Cancelling Changes

If, when deploying a change from Security Cloud Control to a device, you click **Cancel**, the changes you made are not deployed to the device. The process is canceled. The changes you made are still pending on Security Cloud Control and can be edited further before you finally deploy them to FDM-managed device.

Discarding Changes

If, when previewing changes, you click **Discard all**, the changes you made, and any other changes any other user made but did not deploy to the device, are deleted. Security Cloud Control reverts its pending configuration to the last read or deployed configuration before any changes were made.

Bulk Deploy Device Configurations

If you have made changes to multiple devices, for instance by editing a shared object, you can apply those change to all of the affected devices at once:

Procedure

- In the left pane, click **Security Devices**.
- Click the **Devices** tab.
- Click the appropriate device type tab.
- Select all of the devices for which you have made configuration changes on Security Cloud Control. These devices should show "Not Synced" status.
- Deploy the changes using one of these methods:
 - Click the  button at the top-right of the screen to view the **Devices with Pending Changes** window. This gives you a chance to review the pending changes on the devices you selected before you deploy them. Click **Deploy Now** to deploy the changes.

Note

If you see a yellow warning triangle next to a device on the **Devices with Pending Changes** screen, you cannot deploy a change to that device. Hover your mouse over the warning triangle for information about why changes cannot be deployed to that device.

- Click **Deploy All**  on the details pane. Review any warnings and click **OK**. The bulk deployment starts immediately without a review of the changes.

- (Optional) Click the Jobs icon  in the navigation bar to view the results of the bulk deploy.
-

About Scheduled Automatic Deployments

Using Security Cloud Control, you can make configuration changes to one or more of the devices it manages and then schedule the changes to be deployed to those devices at a time that is convenient for you.

You can only schedule deployments if you [Enable scheduled automatic deployments](#) on page 21 in the **Tenant Settings** tab of the Settings page. Once this option is enabled, you can create, edit, or delete scheduled deployments. A scheduled deployment deploys all the staged changes saved on Security Cloud Control at the date and time set. You can also view and delete scheduled deployments from the Jobs page.

If there were changes made directly to the device that have not been [read](#) to Security Cloud Control, the scheduled deployment will be skipped until that conflict is resolved. The Jobs page will list any instance where a scheduled deployment fails. If **Enable the Option to Schedule Automatic Deployments** is turned off, all scheduled deployments are deleted.



Caution

If you schedule a new deployment for multiple devices, and some of those devices already have deployments scheduled, the new scheduled deployment overwrites the existing scheduled deployments.



Note

When you create a scheduled deployment, the schedule is created in your local time, not in the time zone of the device. Scheduled deployments *do not* automatically adjust for daylight savings time.

Schedule an Automatic Deployment

The deployment schedule can be a single event or a recurring event. You may find recurring automatic deployments a convenient way to line up recurring deployments with your maintenance window. Follow this procedure to schedule a one-time or a recurring deployment for a single device.

Important

This procedure applies only to ASAs and FDM-managed devices.

To schedule deployments for Secure Firewall Threat Defense devices managed by on-premises Firewall Management Center or Cloud-Delivered Firewall Management Center, see [Scheduling](#).

**Note**

If you schedule a deployment for a device that has an existing deployment scheduled, the new scheduled deployment overwrites the existing deployment.

Procedure

1. From the Security Cloud Control home page, choose **Security Devices**.
2. Click the **Devices** tab.
3. Click the appropriate device type tab.
4. Select one ore more devices.
5. In the Device Details pane, locate the Scheduled Deployments tab and click **Schedule**.
6. Select when the deployment should occur.
 - For a one-time deployment, click the **Once on** option to select a date and time from the calendar.
 - For a recurring deployment, click the **Every** option. You can choose either a daily or once a week deployment. Select the **Day** and **Time** the deployment should occur.
7. Click **Save**.

Edit a Scheduled Deployment

Follow this procedure to edit a scheduled deployment:

Procedure

1. From the Security Cloud Control home page, choose **Security Devices**.
2. Click the **Devices** tab.
3. Click the appropriate device type tab.
4. Select one or more devices.
5. In the **Device Details** pane, locate the Scheduled Deployments tab and click **Edit**.



6. Edit the recurrence, date, or time of a scheduled deployment.
7. Click **Save**.

Delete a Scheduled Deployment

Follow this procedure to delete a scheduled deployment:

**Note**

If you schedule a deployment for multiple devices, and then change or delete the schedule for some of the devices, the original scheduled deployment for the remaining devices will be preserved.

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. Click the **Devices** tab.
3. Click the appropriate device type tab.
4. Select one or more devices.
5. In the **Device Details** pane, locate the **Scheduled Deployments** tab and click **Delete**

What to do next

- [Reading, Discarding, Checking for, and Deploying Configuration Changes](#)
- [Read All Device Configurations](#) on page 98
- [Preview and deploy configuration changes for all devices](#) on page 99

Check for Configuration Changes

Check for Changes to determine if the device's configuration has been changed directly on the device and it is no longer the same as the copy of the configuration stored on Security Cloud Control. You will see this option when the device is in the "Synced" state.

To check changes:

Procedure

1. From the Security Cloud Control home page, choose **Security Devices**.
2. Click the **Devices** tab.
3. Click the appropriate device type tab.
4. Select the device, whose configuration you suspect may have been changed directly on the device.
5. Click **Check for Changes** in the Synced pane on the right.
6. The behavior that follows is slightly different depending on the device:
 - For AWS device if there has been a change to the device's configuration, you will receive the message:


```
Reading the policy from the device. If there are active deployments on the device, reading will start after they are finished.
```

 - Click **OK** to continue. The configuration on the device will overwrite the stored configuration on Security Cloud Control.
 - Click **Cancel** to cancel the action.
 - For device:

- a. Compare the two configurations presented to you. Click **Continue**. The configuration labeled **Last Known Device Configuration** is the configuration stored on Security Cloud Control. The configuration labeled **Found on Device** is the configuration saved on the ASA.
 - b. Select either:
 1. **Reject** the out-of-band changes to keep the "Last Known Device Configuration."
 2. **Accept** the out-of-band changes to overwrite the device's configuration stored in Security Cloud Control with the configuration found on the device.
 - c. Click **Continue**.
-

Discard Configuration Changes

Click **Discard Changes** when you want to "undo" all the *undeployed* configuration changes you made to a device's configuration using Security Cloud Control. When you click **Discard Changes**, Security Cloud Control *completely overwrites* its local copy of a device's configuration with the configuration stored on the device.

When you click **Discard Changes**, your device's configuration status is in a **Not Synced** state. After you discard your changes, the copy of the configuration on Security Cloud Control will be the same as the copy of the configuration on the device and the configuration status in Security Cloud Control will return to Synced.

To discard, or "undo," all of your undeployed configuration changes for a device:

Procedure

1. From the Security Cloud Control home page, choose **Security Devices**.
 2. Click the **Devices** tab.
 3. Click the appropriate device type tab.
 4. Select the device you have been making configuration changes to.
 5. Click **Discard Changes** in the **Not Synced** pane on the right.
 - For FDM-managed devices-Security Cloud Control warns you that "Pending changes on Security Cloud Control will be discarded and the Security Cloud Control configuration for this device will be replaced with the configuration currently running on the device." Click **Continue** to discard your changes.
 - For Meraki devices-Security Cloud Control deletes the change immediately.
 - For AWS devices-Security Cloud Control displays what you are about to delete. Click **Accept** or **Cancel**.
-

Out-of-Band Changes on Devices

Out-of-band changes refer to changes made directly on the device without using Security Cloud Control. These changes may be made using the device's command-line interface over an SSH connection or by using a local manager like the Adaptive Security Device Manager (ASDM) for the ASA, the FDM for the FDM-managed device, or for an On-Premises Firewall Management Center on the On-Premises Firewall Management Center user interface. An out-of-band change causes a conflict between the device's configuration stored on Security Cloud Control and the configuration stored on the device itself.

Detecting Out-of-Band Changes on Devices

If Conflict Detection is enabled for an ASA, or an FDM-managed device, a Cisco IOS device, or an On-Premises Firewall Management Center, Security Cloud Control checks the device every 10 minutes searching for any new changes made directly to the device's configuration outside of Security Cloud Control.

If Security Cloud Control finds that there are changes to the device's configuration that are not stored on Security Cloud Control, it changes the **Configuration Status** of that device to the "Conflict Detected" state.

When Security Cloud Control detects a conflict, one of two conditions is likely:

- There have been configuration changes made to the device directly that have not been saved to Security Cloud Control's database.
- In the case of an FDM-managed device, there may be "pending" configuration changes on the FDM-managed device that have not been deployed.
- In the case of an On-Premises Firewall Management Center, there may be changes made, for instance, to objects outside Security Cloud Control, which are pending to be synchronized with Security Cloud Control or changes made in Security Cloud Control which are pending to be deployed to the On-Premises Firewall Management Center.

Synchronizing configurations between Security Cloud Control and device

Learn how to synchronize configurations between Security Cloud Control and device.

About configuration conflicts

In the **Security Devices** page, you may see devices or services have the status "Synced," "Not Synced," or "Conflict Detected." To know the status of an On-Premises Firewall Management Center that you manage using Security Cloud Control, navigate **Administration > Integrations > Firewall Management Center**.

- When a device is **Synced**, the configuration on Security Cloud Control) and the configuration stored locally on the device are the same.
- When a device is **Not Synced**, the configuration stored in Security Cloud Control was changed and it is now different than the configuration stored locally on the device. Deploying your changes from Security Cloud Control to the device changes the configuration on the device to match Security Cloud Control's version.
- Changes made to devices outside of Security Cloud Control are called **out-of-band changes**. When out-of-band changes are made, you'll see the device state change to "Conflict Detected," if conflict detection is enabled for the device. Accepting the out-of-band changes, changes the configuration on Security Cloud Control to match the configuration on the device.

Conflict Detection

When conflict detection is enabled, Security Cloud Control polls the device for the default interval to determine if a change has been made to the device's configuration outside of Security Cloud Control. If Security Cloud Control detects that a change was made, it changes the configuration status for the device to **Conflict Detected**. Changes made to a device outside of Security Cloud Control are called "out-of-band" changes.

In the case of an On-Premises Firewall Management Center that is managed by Security Cloud Control, if there are changes that are staged and the device is in **Not Synced** state, Security Cloud Control stops polling the device to check for changes. When there are changes made outside Security Cloud Control which are pending to be synchronized with Security Cloud Control and changes made in Security Cloud Control which are pending to be deployed to the on-premises Firewall Management Center, Security Cloud Control declares the on-premises Firewall Management Center to be in the **Conflict Detected** state.

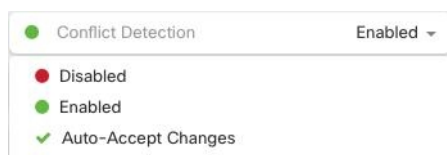
Once this option is enabled, you can configure how often conflicts or OOB changes are detected per device. See [Schedule polling for device changes](#) on page 109 for more information.

Enable Conflict Detection

Enabling conflict detection alerts you to instances where changes have been made to a device outside of Security Cloud Control.

Procedure

1. Choose **Security Devices**.
2. Click the **Devices** tab.
3. Select the appropriate device type tab.
4. Select the device or devices for which you want to enable conflict detection.
5. In the **Conflict Detection** box at the right of the device table, select **Enabled** from the list.



Automatically Accept Out-of-Band Changes from your Device

You can configure Security Cloud Control to automatically accept any change made directly to a managed device by enabling auto-accept changes. Changes made directly to a device without using Security Cloud Control are referred to as out-of-band changes. An out-of-band change creates a *conflict* between the device's configuration stored on Security Cloud Control and the configuration stored on the device itself.

The auto-accept changes feature is an enhancement to conflict detection. If you have auto-accept changes enabled on your device, Security Cloud Control checks for changes every 10 minutes to determine if there have been any out-of-band changes made to the device's configuration. If there have been configuration changes, Security Cloud Control automatically updates its local version of the device's configuration without prompting you.

Security Cloud Control will **not** automatically accept a configuration change if there are configuration changes made on Security Cloud Control that have not yet been deployed to the device. Follow the prompts on the screen to determine your next action.

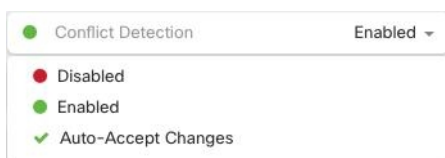
To use auto-accept changes, you first enable the tenant to display the auto-accept option in the Conflict Detection menu on the **Security Devices** page; then, you enable auto-accept changes for individual devices.

If you want Security Cloud Control to detect out-of-band changes but give you the option to accept or reject them manually, enable [Conflict Detection](#) on page 105 instead.

Configure Auto-Accept Changes

Procedure

1. Log in to Security Cloud Control using an account with Admin or Super Admin privileges.
2. From the Security Cloud Control Home page, click **Firewall**.
3. Choose **Administration > General Settings**.
4. In the **Tenant Settings** area, click the toggle to **Enable the option to auto-accept device changes**. This enables the Auto-Accept Changes menu option to appear in the Conflict Detection menu on the **Security Devices** page.
5. In the left pane, click **Security Devices** and select the device for which you want to automatically accept out-of-band changes.
6. In the **Conflict Detection** menu, select **Auto-Accept Changes** in the drop-down menu.



Disabling Auto-Accept Changes for All Devices on the Tenant

Procedure

1. Log-in to Security Cloud Control using an account with Admin or Super Admin privileges.
2. From the Security Cloud Control Home page, click **Firewall**.
3. Choose **Administration > General Settings**.
4. In the **Tenant Settings** area, disable the "**Enable the option to auto-accept device changes**" by sliding the toggle to the left so it shows a grey X. This disables Auto-Accept Changes option in the Conflict Detection menu and disables the feature for every device on your tenant.



Note

Disabling "Auto-Accept" will require you to review each device conflict before you can accept it into Security Cloud Control. This includes devices previously configured to auto-accept changes.

Resolve configuration conflicts

This section explains how to resolve configuration conflicts that occur on the device.

Resolve the Not Synced Status

Use the following procedure to resolve a device with a "Not Synced" Configuration Status:

Procedure

1. Choose **Security Devices**.



Note

For an On-Premises Firewall Management Center, click **Administration > Integrations > Firewall Management Center** and select the FMC that is in **Not Synced** state and continue from Step 5.

2. Click the **Devices** tab to locate the device or the **Templates** tab to locate the model device.
3. Click the appropriate device type tab.
4. Select the device reported as Not Synced.
5. In the **Not synced** panel to the right, select either of the following:

- **Preview and Deploy...** -If you want to push the configuration change from Security Cloud Control to the device, [preview and deploy](#) the changes you made now, or wait and deploy multiple changes at once.
- **Discard Changes** -If you do **not** want to push the configuration change from Security Cloud Control to the device, or you want to "undo" the configuration changes you started making on Security Cloud Control. This option overwrites the configuration stored in Security Cloud Control with the running configuration stored on the device.

Resolve the conflict detected status

Security Cloud Control allows you to enable or disable conflict detection on each live device. If [Conflict Detection](#) on page 105 is enabled and there was a change made to the device's configuration without using Security Cloud Control, the device's configuration status will show **Conflict Detected**.

To resolve a **Conflict Detected** status, follow this procedure:

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. Choose **Security Devices**.

Note

For an On-Premises Firewall Management Center, click **Administration > Integrations > Firewall Management Center** and select the FMC that is in **Not Synced** state and continue from Step 5.

3. Click the **Devices** tab to locate your device.
4. Click the appropriate device type tab.
5. Select the device reporting the conflict and click **Review Conflict** in the details pane on the right.
6. In the **Device Sync** page, compare the two configurations by reviewing the highlighted differences.
 - The panel labeled "Last Known Device Configuration" is the device configuration stored on Security Cloud Control.
 - The panel labeled "Found on Device" is the configuration stored in the running configuration on the ASA.
7. Resolve the conflict by selecting one of the following:
 - **Accept Device changes:** This will overwrite the configuration **and any pending changes stored on** Security Cloud Control with the device's running configuration.

Note

As Security Cloud Control does not support deploying changes to the Cisco IOS devices outside of the command line interface, your only choice for a Cisco IOS device will be to select **Accept Without Review** when resolving the conflict.

- **Reject Device Changes:** This will overwrite the configuration stored on the device with the configuration stored on Security Cloud Control.

 Note

All configuration changes, rejected or accepted, are recorded in the change log.

Schedule polling for device changes

Optimize Security Cloud Control by customizing schedule polling for device changes. When conflict detection or auto-accept is enabled, define specific polling intervals per device. This overrides the tenant default, ensuring precise monitoring of device configuration changes across your network for efficient, automated device management and synchronization.

If you enable [Conflict Detection](#) on page 105 or **Enable the option to auto-accept device changes** from the **Settings** page, Security Cloud Control polls the device at the default interval to check for configuration changes made outside Security Cloud Control. You can set how often Security Cloud Control polls for changes for each device. This customization can be applied to multiple devices.

If you do not configure a selection for a device, the interval is automatically configured for "tenant default".

 Note

If you set a custom interval per device on the **Security Devices** page, it overrides the polling interval selected as the [Default Conflict Detection Interval](#) on the **General Settings** page.

After you enable **Conflict Detection** from the **Security Devices** page or **Enable the option to auto-accept device changes** from the **Settings** page, you can schedule how often Security Cloud Control polls your devices with this procedure.

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. Choose **Security Devices**.
3. Click the **Devices** tab to locate your device.
4. Click the appropriate device type tab.
5. Select the devices where you want to enable conflict detection.
6. Next to **Conflict Detection**, click the drop-down menu for **Check every** and select the polling interval you want.

 **Conflict Detection**

● Enabled

▼

Check every:

Tenant default (24 hours)

▼

Tenant default (24 hours)

10 minutes

1 hour

6 hours

24 hours

10 Monitor and report change logs, workflows, and jobs

Topics:

- [Manage change logs in Security Cloud Control](#)
- [View change log differences](#)
- [Change request management](#)
- [Export the change log](#)
- [Monitor jobs in Security Cloud Control](#)
- [Monitor workflows in Security Cloud Control](#)

Learn about monitor and report change logs, workflows, and jobs in Security Cloud Control.

Security Cloud Control effectively monitors configuration change logs, bulk device operations, and the process that runs when communicating with devices. This helps you understand how your network's existing policies influence its security posture.

Manage change logs in Security Cloud Control

Learn how to use change logs in Security Cloud Control to review configuration changes, track who made them and when, identify conflict entries, compare differences, and export log data for troubleshooting or reporting.

A Change Log captures the configuration changes made in Security Cloud Control, providing a single view that includes changes in all the supported devices and services. These are some of the features of the change log:

- Provides a side-by-side comparison of changes made to device configuration.
- Provides labels for all change log entries.
- Records onboarding and removal of devices.
- Detects policy change conflicts occurring outside Security Cloud Control.
- Provides answers about who, what, and when during an incident investigation or troubleshooting.
- Enables downloading of the complete change log, or only a portion of it, as a CSV file.



Note

Changes made in Cloud-Delivered Firewall Management Center are not reflected in the change log.

Manage change log capacity

Security Cloud Control retains the change log information for one year and deletes data older than a year.

There is a difference between the change log information stored in Security Cloud Control's database and what you see in an exported change log. See [Export the change log](#) on page 119 for more information.

Change log entries

A change log entry reflects the changes to a single device configuration, an action performed on a device, or the change made to a device outside Security Cloud Control:

- For change log entries that contain configuration changes, you can view details about the change by clicking anywhere in the corresponding row.
- For out-of-band changes made outside Security Cloud Control and are detected as conflicts, the **System User** is reported as the **Last User**.
- Security Cloud Control closes a change log entry after a device's configuration on Security Cloud Control is synced with the configuration on the device, or when a device is removed from Security Cloud Control. Configurations are considered to be in sync after they read the configuration from the device to Security Cloud Control or after deploying the configuration from Security Cloud Control to the device.
- Security Cloud Control creates a new change log entry immediately after completing an existing entry, irrespective of whether the change was a success or failure. Additional configuration changes are added to the new change log entry that opens.
- Events are displayed for read, deploy, and delete actions for a device. These actions close a device's change log.
- A change log is closed after Security Cloud Control is in sync with the configuration on the device (either by reading or deploying), or when Security Cloud Control no longer manages the device.

- If a change is made to the device outside of Security Cloud Control, a *Conflict detected* entry is included in the change log.

Pending and completed change log entries

Change logs have a status of either Pending or Completed. As you make changes to a device's configuration using Security Cloud Control, these changes are recorded in a Pending change log entry. The following activities complete a Pending change log, and after this a new change log is created for recording future changes.

- Reading a configuration from a device to Security Cloud Control
- Deploying changes from Security Cloud Control to a device
- Deleting a device from Security Cloud Control
- Running a CLI command that updates the running configuration file

Search and filter change log entries

You can search and filter change log entries. Use the search field to find events. Use the filter () to find the entries that meet the criteria you specify. You can also combine the two tasks by filtering the change log and adding a keyword to the search field to find an entry within the filtered results.

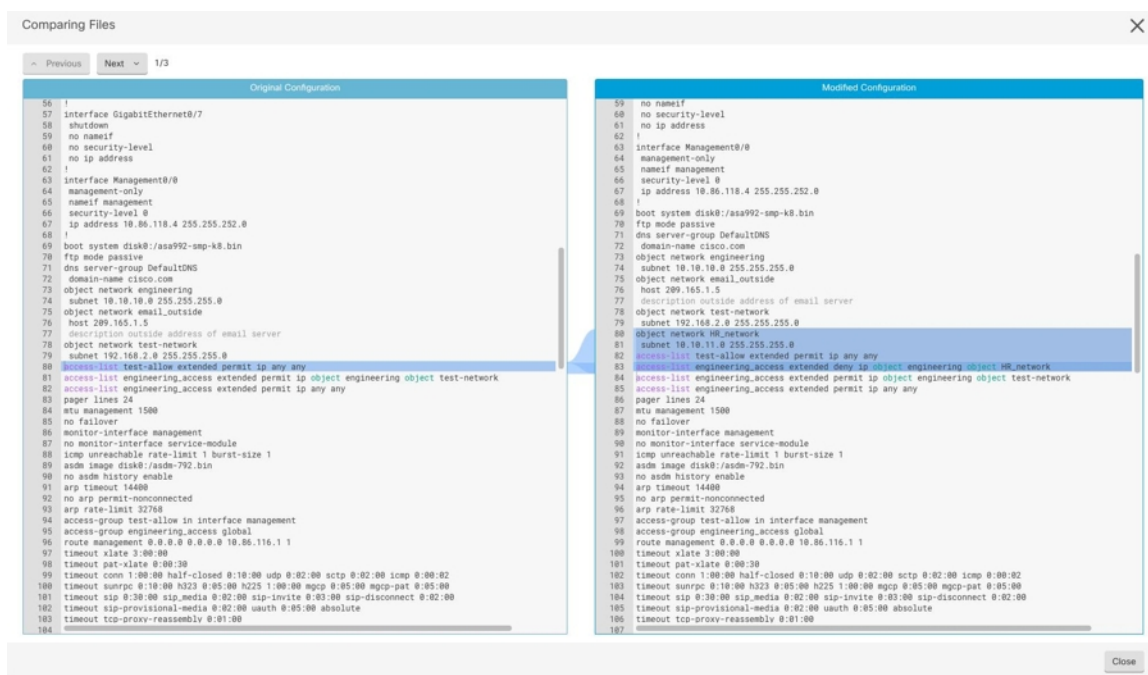
View change log differences

Learn how to view change log differences, including side-by-side comparisons that show added, modified, deleted, and message entries for device configuration changes.

Click **Diff** in the change log to open up a side-by-side comparison of the changes in the running configuration file of the device.

In the following figure, the **Original Configuration** column is the running configuration file before a change was written to the ASA device. The **Modified Configuration** column shows the running configuration file after the change was written. In this case, the **Original Configuration** column highlights a row in the running configuration file; this row doesn't change, but gives you a point of reference in the **Modified Configuration** column.

Follow the lines across from the left to the right column to see the addition of the *HR_network* object and the access rule preventing addresses in the *engineering* network to reach addresses in the *HR_network* network. Click **Previous** and **Next** to move through the changes in the file.



Related Topics

- [Manage change logs in Security Cloud Control](#) on page 113

Change request management

Learn how to enable and use change request management to create change requests, link business justifications to change log events, and search, filter, clear, delete, or disable change request tracking.

Change Request Management enables the linking of a **Change Request** and its business justification to a **Change Log** event. The **Change Request** is opened in a third-party ticketing system.

Use **Change Request Management** to create a **Change Request** in Security Cloud Control and associate it with change log events. You can search for this change request by **Name** within the change log.



Note

In Security Cloud Control, **Change Request Tracking** and **Change Request Management** refer to the same functionality.

Enable Change Request Management

Enabling change request tracking affects all users of your organization.

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. Choose **Administration > General Settings**.

3. Enable the **Change Request Tracking** toggle button.



When enabled, the **Change Request** menu appears at the bottom-left corner and the **Change Request** drop-down list is available in the **Change Log** page.

Create a Change Request

Procedure

1. In Security Cloud Control, click the **Create Change Request (+)** icon in the **Change Request** menu at the bottom-left corner.
2. Enter a **Name** and **Description**.

Ensure that the **Name** corresponds to a **Change Request** name that your organization intends to use, and that the **Description** describes the purpose of the change.

Note

You cannot modify the name of a **Change Request** after you create it.

3. Click **Save**.

Note

When a **Change Request** is saved, Security Cloud Control associates all the new changes with the corresponding **Change Request** name. This association continues until you either [disable change requests](#) or [clear the change request details](#) from the menu.

Associate a Change Request with a Change Log Event

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. In the left pane, click **Events & Logs > Logs > Change Log**.
3. Expand the change log to view the events you want to associate with a **Change Request**.
4. Click the drop-down list adjacent to the corresponding change log entry.

**Note**

The latest change requests are displayed at the top of the change request list.

5. Select a change request and click **Select**.
-

Search for Change Log Events with Change Requests

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
 2. In the left pane, click **Events & Logs > Logs > Change Log**.
 3. In the change log search field, enter the name of a change request to find the associated change log events.
Security Cloud Control highlights the change log events that are exact matches.
-

Search for a Change Request

Procedure

1. In Security Cloud Control, click the **Create Change Request (+)** icon in the **Change Request** menu at the bottom-left corner.
 2. Enter the name of the **Change Request** or a relevant keyword in the search field. As you enter a value, the results that partially match your input, appear in both the **Name** and **Description** fields.
-

Filter Change Requests

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
 2. In the left pane, click **Events & Logs > Logs > Change Log**.
 3. Click the filter icon to view all the options.
 4. In the search field, enter the name of a **Change Request**.
As you enter a value, the results that partially match your entry appear.
 5. Select a change request by checking the corresponding check box.
The matches appear in the **Change Log** table. Security Cloud Control highlights the change log events that are exact matches.
-

Clear the Change Request Toolbar

To avoid automatic association of change log events with an existing change request, clear the information in the change request toolbar.

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. Click the **Create Change Request (+)** icon in the **Change Request** menu at the bottom-left corner.
3. Click **Clear**.

The **Change Request** menu now displays **None**.

Clear a Change Request Associated with a Change Log Event

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
 2. In the left pane, click **Events & Logs > Logs > Change Log**.
 3. Expand the **Change Log** to view the events that you want to disassociate from **Change Requests**.
 4. Click the drop-down list adjacent to the corresponding change log entry.
 5. Click **Clear**.
-

Delete a Change Request

Deleting a **Change Request** removes it from the change request list, but not from the **Change Log**.

Procedure

1. Click the **Create Change Request (+)** icon in the **Change Request** menu at the bottom-left corner.
 2. Select the change request and click the bin icon to delete it.
 3. Click the check mark to confirm.
-

Disable Change Request Management

Disabling **Change Request Management** or **Change Request Tracking** affects all users of your account.

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
 2. Choose **Administration > General Settings**.
 3. Disable the **Change Request Tracking** toggle button.
-

Change Request Management Use Cases

These use cases assume that you have enabled Change Request Management.

Track Changes Made to the Firewall Device to Resolve a Ticket Maintained in an External System

This use case describes a scenario where you want to make changes to a firewall device to resolve a ticket maintained in an external system and want to associate the change log events resulting from these firewall changes to a change request. Follow this procedure to create a change request and associate change log events to it:

1. [Create a Change Request](#) on page 116.
2. Use the ticket name or number from the external system as the name of the change request and add the justification for the change and other relevant information in the **Description** field.
3. Ensure that the new change request is visible in the change request toolbar.
4. Make the changes to the firewall device.
5. In the navigation pane, click **Change Log** and find the change log events that are associated with your new change request.
6. [Clear the Change Request Toolbar](#) on page 118 to avoid automatic association of change log events with an existing change request.

Manually Update Individual Change Log Events After Changes are Made to the Firewall Device

This use case describes a scenario where you have made changes to a firewall device to resolve a ticket that is maintained in an external system, but forgot to use the Change Request Management feature to associate change requests with the change log events. You want to update the change log events with the ticket number. Follow this procedure to associate change requests with change log events:

1. [Create a Change Request](#) on page 116. Use the ticket name or number from the external system as the name of the change request. Use the **Description** field to add the justification for the change and other relevant information.
2. In the navigation pane, click **Change Log** and search for the change log events that are associated with the changes.
3. [Associate a Change Request with a Change Log Event](#) on page 116.
4. [Clear the Change Request Toolbar](#) on page 118 to avoid automatic association of change log events with an existing change request.

Search for Change Log Events Associated with a Change Request

This use case describes a scenario where, you want to find out what change log events were recorded in the change log because of the work done to resolve a ticket maintained in an external system. Follow this procedure to search for change log events that are associated with a change request:

1. In the navigation pane, click **Change Log**.
2. Search for change log events that are associated with change requests using one of the following methods below:
 - In the **Change Log** search field, enter the exact name of the change request to find change log events associated with that change request. Security Cloud Control highlights change log events that are exact matches.
 - [Filter Change Requests](#) on page 117 to find the change log events.
3. View each change log to find the highlighted change log events showing the associated change request.

Export the change log

Learn how to export all or selected change log data to a CSV file so you can filter, sort, and retain change records for reporting or analysis.

You can export all or a subset of the Security Cloud Control change log to a comma-separated value (.csv) file so that you can filter and sort the information, as required.

To export the change log to a .csv file, follow this procedure:

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. In the left pane, click **Events & Logs > Logs > Change Log**.
3. Find the changes you want to export by doing one of the following tasks:
 - Use the filter () and the search field to find what you want to export. For example, filter by device to see only the changes for your selected device or devices.
 - Clear all the filters and search criteria in the change log. This allows you to export the entire change log.



Note

Security Cloud Control retains 1 year of change log data. It is recommended to filter the change log contents and download the results to a .csv file rather than downloading the entire change log history for a year.

4. Click the export  icon at the top right corner of the page.
5. Save the .csv file to your local file system, with a descriptive name.

Differences Between Change Log Capacity in Security Cloud Control and Size of an Exported Change Log

The information that you export from Security Cloud Control's Change Log page is different from the change log information that Security Cloud Control stores in its database.

For every change log, Security Cloud Control stores two copies of the device's configuration—the *starting* configuration and either the *ending* configuration in the case of a closed change log or the *current* configuration in the case of an open change log. This allows Security Cloud Control to display configuration differences side by side. In addition, Security Cloud Control tracks and stores every step (*change event*) with the username that made the change, the time the change was made, and other details.

However, when you export the change log, the export does not include the two complete copies of the configuration. It only includes the *change events*, which makes the export file much smaller than the change log that Security Cloud Control stores.

Security Cloud Control stores change log information for a year. This includes two copies of the configuration.

Monitor jobs in Security Cloud Control

Learn how to monitor bulk operations in Security Cloud Control, review job progress and device-level results, search or filter jobs by action, user, or status, and reinitiate or cancel bulk actions.

The **Jobs** page provides an overview of the progress of bulk operations, such as reconnecting multiple devices, reading configurations from multiple devices, or upgrading multiple devices simultaneously. The **Jobs** table uses color-coded rows along with the status of individual actions, indicating if they have succeeded or failed.

One row in the table represents a single bulk operation. This one bulk operation may have been, for example, an attempt to reconnect 20 devices. Expanding a row in the **Jobs** page displays the results for each of the devices affected by the bulk operation.

Action	Status	User	Start	End	Scheduled
Execute CLI Command	20 13 1 0 0 6		11/2/2023, 9:37:03 AM	11/2/2023, 9:37:04 AM	Retry
Deploy Changes	20 13 1 0 0 6		11/2/2023, 3:30:00 AM	11/2/2023, 3:30:04 AM	Every day at 3:30 AM
Deploy Changes	20 13 1 0 0 6		11/2/2023, 3:30:00 AM	11/2/2023, 3:30:03 AM	Every day at 3:30 AM
Deploy Changes	20 13 1 0 0 6		11/2/2023, 3:30:01 AM	11/2/2023, 3:30:03 AM	Every day at 3:30 AM
Deploy Changes	20 13 1 0 0 6		11/2/2023, 3:30:00 AM	11/2/2023, 3:30:02 AM	Every day at 3:30 AM
Deploy Changes	20 13 1 0 0 6		11/1/2023, 7:28:00 PM	11/1/2023, 7:34:26 PM	Every Wednesday at 7:28 PM
Toggle Conflict Detection	20 13 1 0 0 6		10/31/2023, 5:37:42 PM	10/31/2023, 5:37:43 PM	
DEVICE	STATUS	DETAILS	START	END	
	Done		10/31/2023, 5:37:42 PM	10/31/2023, 5:37:43 PM	

You can reach the **Jobs** page in two different ways:

- In the **Notifications** tab, when there is a new Job notification, click the **Review** link. You will be redirected to the **Jobs** page and see the specific job represented by the notification.

View Jobs

Reconnecting...

Started 1s ago

20 13 1 0 0 6

[Review](#)

1 Active Jobs 12 Background Tasks

The notifications tab displays status information about the job. This example shows the bulk action (Reconnect), the number of actions in the job (20), actions being processed (13), number of actions failed (1), number of warnings (0), and number of actions succeeded (6).

- In the left pane, click **Events & Logs > Events heading > Jobs**. This table shows a complete list of the bulk actions performed in Security Cloud Control.

Search jobs in Security Cloud Control

When you're on the **Jobs** page, you can filter and search by different actions, the users who performed them, and the action status.

Reinitiate a Bulk Action

After reviewing the **Jobs** page, if you find that one or more actions in a bulk action have failed, you can retry the bulk action after making the necessary corrections.. Note that Security Cloud Control will re-run the job only for the failed actions. To re-run a bulk action:

Procedure

- In the **Jobs** page, select the row that indicates a failed action.
- Click the **Retry** icon.

Cancel a Bulk Action

You can cancel the bulk actions that are currently in progress on multiple devices. For example, if you have tried to reconnect four managed devices, and three of them have successfully reconnected, but the fourth device is still neither connected nor disconnected, you can cancel the bulk action.

To cancel a bulk action:

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. In the left pane, click **Events & Logs > Events heading > Jobs**.
3. Identify the running bulk action and click the **Cancel** link on the right side.



Note

If any part of the bulk action is successful, it cannot be undone. Any ongoing action will be cancelled.

Monitor workflows in Security Cloud Control

Learn how to monitor Security Cloud Control workflows, troubleshoot failed device or connector tasks, export workflow details for TAC analysis, and copy stack traces for unresolved errors.

The **Workflows** page allows you to monitor every process that Security Cloud Control runs when communicating with devices, Secure Device Connector (SDC), or Secure Event Connector (SEC), and when applying ruleset changes to devices. Security Cloud Control creates an entry in the workflow table for every step and displays its outcome on this page. The entry contains information pertaining only to the action performed by Security Cloud Control and not the device it is interacting with.

Security Cloud Control reports an error when it fails to perform a task on a device. Navigate to the **Workflows** page to see the step where the error occurred, for more details.

This page also helps you determine and troubleshoot errors or share information with TAC, when required.

To navigate to the **Workflows** page, in the left pane, click **Security Devices** and, click the **Devices** tab. Click the appropriate device type tab to locate the device and select the device you want. Under the **Devices and Actions** in the right pane, click **Workflows**. This figure shows the **Workflows** page with entries in the **Workflow** table.

Security Devices							
Name	Priority	Condition	Current State	Last Active	Start Time	End Time	Service
asaVPNSessionDetailsStateMachine	Scheduled	Done	Done	11/27/2024, 10:17:36 AM	11/27/2024, 10:17:35 AM	11/27/2024, 10:17:36 AM	AEGIS
asaGetHitRatesStateMachine	Scheduled	Done	Done	11/27/2024, 10:17:34 AM	11/27/2024, 10:17:33 AM	11/27/2024, 10:17:34 AM	AEGIS
asaVPNSessionDetailsStateMachine	Scheduled	Done	Done	11/27/2024, 9:17:36 AM	11/27/2024, 9:17:35 AM	11/27/2024, 9:17:36 AM	AEGIS
asaGetHitRatesStateMachine	Scheduled	Done	Done	11/27/2024, 9:17:34 AM	11/27/2024, 9:17:33 AM	11/27/2024, 9:17:35 AM	AEGIS
asaVPNSessionDetailsStateMachine	Scheduled	Done	Done	11/27/2024, 8:17:37 AM	11/27/2024, 8:17:35 AM	11/27/2024, 8:17:37 AM	AEGIS
asaGetHitRatesStateMachine	Scheduled	Done	Done	11/27/2024, 8:17:35 AM	11/27/2024, 8:17:33 AM	11/27/2024, 8:17:35 AM	AEGIS
asaVPNSessionDetailsStateMachine	Scheduled	Done	Done	11/27/2024, 7:17:36 AM	11/27/2024, 7:17:35 AM	11/27/2024, 7:17:36 AM	AEGIS
asaGetHitRatesStateMachine	Scheduled	Done	Done	11/27/2024, 7:17:35 AM	11/27/2024, 7:17:33 AM	11/27/2024, 7:17:35 AM	AEGIS

Export device workflows

You can download the complete workflow information to a JSON file and provide it when the TAC team asks for further analysis. To export the workflow information, select the corresponding device and, navigate to its **Workflows** page and click the export () icon appearing at the top-right corner.

Copy stack trace

If you have an error you cannot resolve and you approach TAC, they may ask you for a copy of the stack trace. To collect the stack trace for the error, click the **Stack Trace** link and click **Copy Stacktrace** to copy the stacks appearing on the screen, to a clipboard.

11 Terraform

Topics:

- [About Terraform](#)

This chapter explains how to set up and manage Security Cloud Control.

About Terraform

Learn how to use Security Cloud Control Terraform providers and modules to manage users, onboard firewall devices, deploy Secure Device and Event Connectors, and maintain repeatable, version-controlled infrastructure configurations.

Security Cloud Control customers can use the [Security Cloud Control Terraform provider](#) and Security Cloud Control Terraform modules to rapidly set up their tenants using code that is repeatable and version-controlled. The Security Cloud Control Terraform provider allows users to do the following:

- **Manage** users
- **Onboard** Secure Firewall Threat Defense devices on Cloud-Delivered Firewall Management Centers, Cisco Secure ASA devices, and iOS devices
- **Onboard** secure device connectors on vSphere and AWS
- **Onboard** secure event connectors on AWS

For more information, refer to the following pages:

- [Security Cloud Control Terraform Provider page](#)
- [Security Cloud Control SDC on vSphere module page](#)
- [Security Cloud Control SDC on AWS module page](#)
- [Security Cloud Control SEC on AWS module page](#)
- Work through the [Devnet learning lab](#)
- [Automating Security Infrastructure Management Using the Security Cloud Control Terraform Provider](#) - Learning Lab
- [Security Cloud Control automation examples](#) on GitHub

Support

The Security Cloud Control Terraform provider and modules are published as Open Source Software under the Apache 2.0 license. Please file issues on GitHub in the repositories below if you require support:

Module	Repository
Security Cloud Control Terraform Provider	https://github.com/cisco/devnet/terraform-provider-Security-Cloud-Control
Security Cloud Control SDC Module (vSphere)	https://github.com/CiscoDevNet/terraform-vsphere-Security-Cloud-Control-sdc
Security Cloud Control SDC Module (AWS)	https://github.com/CiscoDevNet/terraform-aws-Security-Cloud-Control-sdc
Security Cloud Control SEC Module (AWS)	https://github.com/CiscoDevNet/terraform-aws-Security-Cloud-Control-sec

Contribution to repositories

The Security Cloud Control team welcomes contributions to the repositories above. Please create pull requests on these GitHub repositories if you wish to contribute to improving the provider and modules.

Related topics

- [Deploy an SDC to vSphere Using Terraform](#)
- [Deploy an SDC to AWS VPC Using Terraform](#)
- [Deploy an SEC to AWS VPC Using Terraform](#)

12 Troubleshooting

Topics:

- [Troubleshoot Security Cloud Control](#)
- [Device connectivity states](#)

This chapter details how to troubleshoot errors that may occur when working with various components in Security Cloud Control Firewall Management.

Troubleshoot Security Cloud Control

Learn how to troubleshoot Security Cloud Control issues, including login failures, access and certificate problems, and object-related errors.

Troubleshooting Access and Certificates

Resolve New Fingerprint Detected State

Procedure

1. In the left pane, click **Security Devices**.
 2. Click the **Devices** tab.
 3. Click the appropriate device type tab.
 4. Select the device in the **New Fingerprint Detected** state.
 5. Click **Review Fingerprint** in the New Fingerprint Detected pane.
 6. When prompted to review and accept the fingerprint:
 - a. Click **Download Fingerprint** and review it.
 - b. If you are satisfied with the fingerprint, click **Accept**. If you are not, click **Cancel**.
 7. After you resolve the new fingerprint issue, the connectivity state of the device may show **Online** and the Configuration Status may show "Not Synced" or "Conflict Detected." Review [Resolve Configuration Conflicts](#) to review and resolve configuration differences between Security Cloud Control and the device.
-

Troubleshooting SSL Decryption Issues

Handling Web Sites Where Decrypt Re-sign Works for a Browser but not an App (SSL or Certificate Authority Pinning)

Some apps for smart phones and other devices use a technique called SSL (or Certificate Authority) pinning. The SSL pinning technique embeds the hash of the original server certificate inside the app itself. As a result, when the app receives the resigned certificate from the Firepower Threat Defense device, the hash validation fails and the connection is aborted.

The primary symptom is that users cannot connect to the web site using the site's app, but they can connect using the web browser, even when using the browser on the same device where the app fails. For example, users cannot use the Facebook iOS or Android app, but they can point Safari or Chrome at <https://www.facebook.com> and make a successful connection.

Because SSL pinning is specifically used to avoid man-in-the-middle attacks, there is no workaround. You must choose between the following options:

More Details

If a site works in a browser but not in an app on the same device, you are almost certainly looking at an instance of SSL pinning. However, if you want to delve deeper, you can use connection events to identify SSL pinning in addition to the browser test.

There are two ways an app might deal with hash validation failures:

- Group 1 apps, such as Facebook, send an SSL ALERT Message as soon as it receives the SH, CERT, SHD message from the server. The Alert is usually an "Unknown CA (48)" alert indicating SSL Pinning. A TCP Reset is sent following the Alert message. You should see the following symptoms in the event details:
 - `SSL Flow Flags include ALERT_SEEN.`

- SSL Flow Flags do not include APP_DATA_C2S or APP_DATA_S2C.
- SSL Flow Messages typically are: CLIENT_HELLO, SERVER_HELLO, SERVER_CERTIFICATE, SERVER_KEY_EXCHANGE, SERVER_HELLO_DONE.
- Group 2 apps, such as Dropbox, do not send any alerts. Instead they wait until the handshake is done and then send a TCP Reset. You should see the following symptoms in the event:
 - SSL Flow Flags do not include ALERT_SEEN, APP_DATA_C2S, or APP_DATA_S2C.
 - SSL Flow Messages typically are: CLIENT_HELLO, SERVER_HELLO, SERVER_CERTIFICATE, SERVER_KEY_EXCHANGE, SERVER_HELLO_DONE, CLIENT_KEY_EXCHANGE, CLIENT_CHANGE_CIPHER_SPEC, CLIENT_FINISHED, SERVER_CHANGE_CIPHER_SPEC, SERVER_FINISHED.

Troubleshooting Login Failures after Migration

Login to Security Cloud Control Fails Because of Incorrect Username or Password

If you try to log in to Security Cloud Control and you *know* you are using the correct username and password and your login is failing, or you try the "forgot password" option and cannot recover a viable password, you may have tried to log in without creating a new Cisco Security Cloud Sign On account. You need to sign up for a new Cisco Security Cloud Sign On Account.

Login to the Cisco Security Cloud Sign On Dashboard Succeeds but You Can't Launch Security Cloud Control

You may have created a Cisco Security Cloud Sign On account with a different username than your Security Cloud Control tenant. Contact the [Cisco Technical Assistance Center \(TAC\)](#) to standardize your user information between Security Cloud Control and Cisco Secure Sign-On.

Login Fails Using a Saved Bookmark

You may be attempting to log in using an old bookmark you saved in your browser. The bookmark could be pointing to <https://cdo.onelogin.com>.

Log in to <https://security.cisco.com>.

- If you have created your new secure sign-on account, click the Security Cloud Control tile on the dashboard that corresponds to the region in which your tenant was created:
 - Security Cloud Control APJ
 - Security Cloud Control Australia
 - Security Cloud Control EU
 - Security Cloud Control India
 - Security Cloud Control US
- Update your bookmark to point to <https://security.cisco.com>.

Troubleshooting Objects

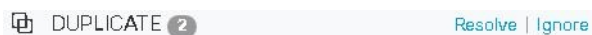
Resolve Duplicate Object Issues

Duplicate objects  are two or more objects on the same device with different names but the same values. These objects are usually created accidentally, serve similar purposes, and are used by different policies. After resolving duplicate object issues, Security Cloud Control updates all affected object references with the retained object name.

To resolve duplicate object issues:

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. In the left pane, click **Objects** and choose an option.
3. Then [filter](#) the objects to find duplicate object issues.
4. Select one of the results. In the objects details panel, you will see the DUPLICATE field with the number of duplicates affected:



5. Click **Resolve**. Security Cloud Control displays the duplicate objects for you to compare.
 6. Select two of the objects to compare.
 7. You now have these options:
 - If you want to replace one of the objects with the other, click **Pick** for the object you to keep, click **Resolve** to see what devices and network policies will be affected, and then click **Confirm** if you are satisfied with the changes. Security Cloud Control keeps the object you selected as the replacement and deletes the duplicate.
 - If you have an object in the list that you want to ignore, click **Ignore**. If you ignore an object, it will be removed from the list of duplicate objects that Security Cloud Control shows you.
 - Click **Ignore All** if you want to keep the object but do not want Security Cloud Control to find it in a search for duplicate objects.
 8. Once the duplicate object issue has been resolved [review and deploy](#) the changes you made now, or wait and deploy multiple changes at once.
-

Resolve Unused Object Issues

Unused objects  are objects that exist in a device configuration but are not referenced by another object, an access-list, or a NAT rule.

Related Information:

- [Export a list of devices and services](#) on page 66
- [Bulk reconnect devices to Security Cloud Control Firewall Management](#) on page 69

Resolve an Unused Object Issue

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. In the left pane, click **Objects** and choose an option.
3. Then [filter](#) the objects to find unused object issues.
4. Select one or more unused objects.
5. You now have these options:
 - In the Actions pane, click **Remove**  to remove the unused object from Security Cloud Control.
 - In the Issues pane, click **Ignore**. If you ignore an object, Security Cloud Control will stop displaying it among the results of unused objects objects.
6. If you removed the unused object, [Preview and deploy configuration changes for all devices](#) on page 99 the changes you made now, or wait and deploy multiple changes at once.

 Note

To resolve unused object issues in bulk, see [Resolve Object Issues in Bulk](#).

Remove Unused Objects in Bulk

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
 2. In the left pane, click **Objects** and choose an option.
 3. Then [filter](#) the objects to find unused object issues.
 4. Select the unused objects you want to delete:
 - Click the checkbox in the object table header row to select all the objects on the page.
 - Select individual unused objects in the object table.
 5. In the Actions pane on the right, click **Remove**  to remove all the unused objects you selected in Security Cloud Control. You can remove 99 objects at a time.
 6. Click **OK** to confirm you want to delete the unused objects.
 7. You have two choices to deploy these changes:
 - [Review and deploy](#) the changes you made now, or wait and deploy multiple changes at once.
 - Open the **Security Devices** page and find the devices that were affected by the change. Select all the devices affected by the change and, in the **Management** pane, click **Deploy All** . Read the warning and take the appropriate action.
-

Resolve Inconsistent Object Issues

Inconsistent objects  INCONSISTENT  [Resolve](#) | [Ignore](#) are objects with the same name, but different values, on two or more devices. Sometimes users create objects in different configurations with the same name and content, but over time the values of these objects diverge, which creates the inconsistency.

Note: To resolve inconsistent object issues in bulk, see [Resolve Object Issues in Bulk](#).

You can perform the following on inconsistent objects:

- **Ignore:** Security Cloud Control ignores the inconsistency between objects and retains their values. The objects will no longer be listed under the inconsistency category.
- **Merge:** Security Cloud Control combines all selected objects and their values into a single object group.
- **Rename:** Security Cloud Control allows you to rename one of the inconsistent objects and give it a new name.
- **Convert Shared Network Objects to Overrides:** Security Cloud Control allows you to combine inconsistent shared objects (with or without overrides) into a single shared object with overrides. The most common default value from the inconsistent objects is set as a default in the newly formed object.

 Note

If there are multiple common default values, one of them is selected as the default. The remaining default values and override values are set as overrides of that object.

- **Convert Shared Network Group to Additional Values:** - Security Cloud Control allows you to combine inconsistent shared network groups into a single shared network group with additional values. The criteria for this functionality is that the inconsistent network groups to be converted must have a minimum of one common object with the same value. All default values that match this criterion becomes the default values, and the remaining objects are assigned as additional values of the newly formed network group.

For example, consider two inconsistent shared network groups. The first network group 'shared_network_group' is formed with 'object_1' (192.0.2.x) and 'object_2' (192.0.2.y). It also contains additional value 'object_3' (192.0.2.a). The second network group 'shared_network_group' is formed with 'object_1' (192.0.2.x) and additional value 'object_4' (192.0.2.b). On converting the shared network group to additional values, the newly formed group 'shared_network_group' contain 'object_1' (192.0.2.x) and 'object_2' (192.0.2.y) as default values and 'object_3' (192.0.2.a) and 'object_4' (192.0.2.b) as additional values.

 Note

When you create a new network object, Security Cloud Control auto assigns its value as an override to an existing shared network object with the same name. This is also applicable when a new device is onboarded to Security Cloud Control.

The auto-assignment happens only when the following criteria are met:

1. The new network object must be assigned to a device.
2. Only one shared object with the same name and type must be existing in the tenant.
3. The shared object must already contain overrides.

To resolve inconsistent object issues:

Procedure

1. In the Security Cloud Control navigation bar on the left, click **Objects** and choose an option.
2. Then [filter](#) the objects to find inconsistent object issues.
3. Select an inconsistent object. In the objects details panel, you will see the INCONSISTENT field with the number of objects affected:

4. Click **Resolve**. Security Cloud Control displays inconsistent objects for you to compare.
5. You now have these options:
 - **Ignore All:**
 - a. Compare the objects presented to you and on one of the objects, click **Ignore**. Or, to ignore all objects, click **Ignore All**.

- b. Click **OK** to confirm.
 - **Resolve by merging objects:**
 - a. Click **Resolve by Merging X Objects**.
 - b. Click **Confirm**.
 - **Rename:**
 - a. Click **Rename**.
 - b. Save your changes to affected network policies and devices and click **Confirm**.
 - **Convert to Overrides (for inconsistent shared objects):** When comparing shared objects with overrides, the comparison panel shows only the default values in the **Inconsistent Values** field.
 - a. Click **Convert to Overrides**. All inconsistent objects will be converted to a single shared object with overrides.
 - b. Click **Confirm**. You can click **Edit Shared Object** to view the details of the newly formed object. You can use up and down arrows to move the values between default and override.
 - **Convert to Additional Values (for inconsistent network groups):**
 - a. Click **Convert to Additional Values**. All inconsistent objects will be converted to a single shared object with additional values.
 - b. Save your changes to affected network policies and devices and click **Confirm**.
6. After resolving the inconsistencies, [review and deploy](#) now the changes you made, or wait and deploy multiple changes at once.

Resolve Object Issues in Bulk

One way to resolve objects with [unused](#), [duplicate](#), or [Resolve Inconsistent Object Issues](#) on page 132 issues is to ignore them. You can select and ignore multiple objects, even if objects exhibit more than one issue. For example, if an object is both inconsistent and unused, you can only ignore one issue type at a time.

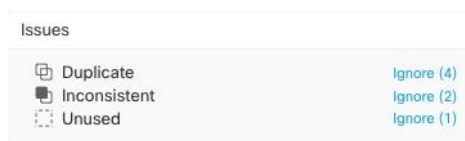
Important

If the object becomes associated with another issue type at a later time, the ignore action you committed only affects the issues you selected at that time. For example, if you ignored an object because it was a duplicate and the object is later marked inconsistent, ignoring it as a duplicate object does not mean it will be ignored as an inconsistent object.

To ignore issues in bulk, follow this procedure:

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. In the left pane, click **Objects** and choose an option.
3. To narrow your search, you can [filter](#) object issues.
4. In the Object table, select all the applicable objects you want to ignore. The Issues pane groups objects by issue type.



5. Click **Ignore** to ignore issues by type. You must **Ignore** each issue type separately.

6. Click **OK** to confirm you want to ignore those objects.

Device connectivity states

Learn how to interpret device connectivity states in Security Cloud Control and troubleshoot issues such as offline devices, insufficient licenses, invalid credentials, onboarding errors, new certificates, and unregistered devices.

You can view the connectivity states of the devices onboarded in your Security Cloud Control tenant. This topic helps you understand the various connectivity states. On the **Security Devices** page, the **Connectivity** column displays the device connectivity states.

When the device connectivity state is 'Online' it means that the device is powered on and connected to Security Cloud Control. The other states described in the table below usually occur when the device is running into problems for various reasons. The table provides the method to recover from such problems. It may be that there is more than one problem causing the connection failure. When you attempt to reconnect, Security Cloud Control will prompt you to fix all of these problems first before performing the reconnect.

Device Connectivity State	Possible Reasons	Resolution
Online	Device is powered on and connected to Security Cloud Control.	NA
Offline	Device is powered down or lost network connectivity.	Check whether the device is offline.
Insufficient licenses	Device doesn't have sufficient licenses.	Troubleshoot Insufficient Licenses on page 136
Invalid credentials	Username and password combination used by Security Cloud Control to connect to the device is incorrect.	Troubleshoot Invalid Credentials on page 136
Onboarding	Device onboarding is initiated but is not complete.	Check you device's connectivity and ensure you complete the device registration.
Unknown	Device onboarding failed and Security Cloud Control cannot fetch the connectivity state of the device.	On the Security Devices page, select the device and choose Check for Changes from the right pane, to attempt fetching the latest configuration from the device.
New Certificate Detected	Certificate on the device has changed. If the device uses a self-signed certificate, then this could have happened due to the device being power cycled.	Troubleshoot New Certificate Issues on page 137

Device Connectivity State	Possible Reasons	Resolution
Onboarding Error	Security Cloud Control may have lost connectivity with the device when onboarding it.	Troubleshoot Onboarding Error on page 145

Troubleshoot Insufficient Licenses

If the device connectivity status shows "Insufficient License", do the following:

- Wait for some time until the device attains the license. Typically it takes some time for Cisco Smart Software Manager to apply a new license to the device.
- If the device status doesn't change, refresh the Security Cloud Control portal by signing out from Security Cloud Control and signing back to resolve any network communication glitch between license server and device.
- If the portal refresh doesn't change the device status, perform the following:

Procedure

1. Generate a new token from [Cisco Smart Software Manager](#) and copy it. You can watch the [Generate Smart Licensing](#) video for more information.
2. In the left pane, click **Security Devices**.
3. Click the **Devices** tab.
4. Click the appropriate device type tab and select the device with the **Insufficient License** state.
5. In the **Device Details** pane, click **Manage Licenses** appearing in **Insufficient Licenses**. The **Manage Licenses** window appears.
6. In the **Activate** field, paste the new token and click **Register Device**.

Once the token is applied successfully to the device, its connectivity state turns to **Online**.

Troubleshoot Invalid Credentials

Perform the following to resolve device disconnection due to invalid credentials:

Procedure

1. In the left pane, click **Security Devices**.
2. Click the **Devices** tab.
3. Click the appropriate device type tab and select the device with the **Invalid Credentials** state.
4. In the **Device Details** pane, click **Reconnect** appearing in **Invalid Credentials**. Security Cloud Control attempts to reconnect with your device.
5. When prompted enter the new username and password for the device.
6. Click **Continue**.
7. After the device is online and ready to use, click **Close**.
8. It is likely that because Security Cloud Control attempted to use the wrong credentials to connect to the device, the username and password combination Security Cloud Control should use to connect to the device was changed directly on the device. You may now see that the device is "Online" but the configuration state is "Conflict Detected." Use

[Resolve Configuration Conflicts](#) to review and resolve configuration differences between Security Cloud Control and the device.

Troubleshoot New Certificate Issues

Security Cloud Control's Use of Certificates

Security Cloud Control checks the validity of certificates when connecting to devices. Specifically, Security Cloud Control requires that:

1. The device uses a TLS version equal to or greater than 1.0.
2. The certificate presented by the device is not expired, and its issuance date is in the past (i.e. it is already valid, not scheduled to become valid at a later date).
3. The certificate must be a SHA-256 certificate. SHA-1 certificates will not be accepted.
4. One of these conditions is true:
 - The device uses a self-signed certificate, and it is the same as the most recent one trusted by an authorized user.
 - The device uses a certificate signed by a trusted Certificate Authority (CA), and provides a certificate chain linking the presented leaf certificate to the relevant CA.

These are the ways Security Cloud Control uses certificates differently than browsers:

- In the case of self-signed certificates, Security Cloud Control overrides the domain name check, instead checking that the certificate exactly matches the one trusted by an authorized user during device onboarding or reconnection.
- Security Cloud Control does not yet support internal CAs. There is currently no way to check a certificate signed by an internal CA.

It is possible to disable certificate checking for ASA devices on a per-device basis. When an ASA's certificate cannot be trusted by Security Cloud Control, you will have the option of disabling certificate checking for that device. If you have attempted to disable certificate checking for the device and you are still unable to onboard it, it is likely that the IP address and port you specified for the device is incorrect or unreachable. There is no way to disable certificate checking globally, or to disable certificate checking for a device with a supported certificate. There is no way to disable certificate checking for non-ASA devices.

When you disable certificate checking for a device, Security Cloud Control will still use TLS to connect to the device, but it will not validate the certificate used to establish the connection. This means that a passive man-in-the-middle attacker will not be able to eavesdrop on the connection, but an active man-in-the-middle could intercept the connection by supplying Security Cloud Control with an invalid certificate.

Identifying Certificate Issues

There are several reasons that Security Cloud Control may not be able to onboard a device. When the UI shows a message that "Security Cloud Control cannot connect to the device using the certificate presented," there is a problem with the certificate. When the UI does not show this message, the problem is more likely related to connectivity problems (the device is unreachable) or other network errors.

To determine why Security Cloud Control rejects a given certificate, you can use the openssl command-line tool on the SDC host or another host that can reach the relevant device. Use the following command to create a file showing the certificates presented by the device:

```
openssl s_client -showcerts -connect <host>:<port> &> <filename>.txt
```

This command will start an interactive session, so you will need to use Ctrl-c to exit after a couple of seconds.

You should now have a file containing output like the following:

```
depth=2 C = US, O = GeoTrust Inc., CN = GeoTrust Global CA
verify return:1
depth=1 C = US, O = Google Inc, CN = Google Internet Authority G2
verify return:1
depth=0 C = US, ST = California, L = Mountain View, O = Google Inc, CN =
*.google.com
verify return:1 CONNECTED(00000003)
---
Certificate chain
0 s:/C=US/ST=California/L=Mountain View/O=Google Inc/CN=*.google.com
  i:/C=US/O=Google Inc/CN=Google Internet Authority G2
-----BEGIN CERTIFICATE-----
MIIH0DCCBrigAwIBAgIIUOMfH+8ftN8wDQYJKoZIhvcNAQELBQAuSTELMAkGA1UE
....lots of base64...
tzW9TylihJpZcl4qihFVTgFM7rMU2VHulpJgA59gdbaO/Bf
-----END CERTIFICATE-----
1 s:/C=US/O=Google Inc/CN=Google Internet Authority G2
  i:/C=US/O=GeoTrust Inc./CN=GeoTrust Global CA
-----BEGIN CERTIFICATE-----
MIID8DCCAtigAwIBAgIDAjqsMA0GCSqGSIb3DQEBCwUAMEIxCzAJBgNVBAYTA1VT
....lots of base64...
tzW9TylihJpZcl4qihFVTgFM7rMU2VHulpJgA59gdbaO/Bf
-----END CERTIFICATE-----
2 s:/C=US/O=GeoTrust Inc./CN=GeoTrust Global CA
  i:/C=US/O=Equifax/OU=Equifax Secure Certificate Authority
-----BEGIN CERTIFICATE-----
MIIDftCCAuaGAwIBAgIDervmMA0GCSqGSIb3DQEBCwUAME4xCzAJBgNVBAYTA1VT
....lots of base64...
b8ravHNjkOR/ez4iyz0H7V84dJzjA1BOoa+Y7mHyhD8S
-----END CERTIFICATE-----
---
Server certificate
subject=/C=US/ST=California/L=Mountain View/O=Google Inc/CN=*.google.com
issuer=/C=US/O=Google Inc/CN=Google Internet Authority G2
---
No client certificate CA names sent
Peer signing digest: SHA512
Server Temp Key: ECDH, P-256, 256 bits

---
SSL handshake has read 4575 bytes and written 434 bytes
---
New, TLSv1/SSLv3, Cipher is ECDHE-RSA-AES128-GCM-SHA256
Server public key is 2048 bit Secure Renegotiation IS supported
Compression: NONE
Expansion: NONE
No ALPN negotiated
SSL-Session:
    Protocol : TLSv1.2
    Cipher : ECDHE-RSA-AES128-GCM-SHA256
    Session-ID: 48F046F3360225D51BE3362B50CE4FE8DB6D6B80B871C2A6DD5461850C4CF5AB

    Session-ID-ctx:
    Master-Key:
9A9CCBAA4F5A25B95C37EF7C6870F8C5DD3755A9A7B4CCE4535190B793DEFF53F94203AB0A62F9F70B9099FBFEBAB1B6

    Key-Arg : None
    PSK identity: None
    PSK identity hint: None
    SRP username: None
    TLS session ticket lifetime hint: 100800 (seconds)
```

```

TLS session ticket:
0000 - 7a eb 54 dd ac 48 7e 76-30 73 b2 97 95 40 5b de z.T..H~v0s...@[.
0010 - f3 53 bf c8 41 36 66 3e-5b 35 a3 03 85 6f 7d 0c .S...A6f>[5...o}.
0020 - 4b a6 90 6f 95 e2 ec 03-31 5b 08 ca 65 6f 8f a6 K..o....1[...eo..
0030 - 71 3d c1 53 b1 29 41 fc-d3 cb 03 bc a4 a9 33 28 q=.S.)A.....3(
0040 - f8 c8 6e 0a dc b3 e1 63-0e 8f f2 63 e6 64 0a 36 ..n....c...c.d.6
0050 - 22 cb 00 3a 59 1d 8d b2-5c 21 be 02 52 28 45 9d "...:Y...\\!...R(E.
0060 - 72 e3 84 23 b6 f0 e2 7c-8a a3 e8 00 2b fd 42 1d r..#...|....+.B.
0070 - 23 35 6d f7 7d 85 39 1c-ad cd 49 f1 fd dd 15 de #5m.}.9...I.....
0080 - f6 9c ff 5e 45 9c 7c eb-6b 85 78 b5 49 ea c4 45 ...^E.|.k.x.I..E
0090 - 6e 02 24 1b 45 fc 41 a2-87 dd 17 4a 04 36 e6 63 n.$..E.A....J.6.c
00a0 - 72 a4 ad
00a4 - <SPACES/NULS> Start Time: 1476476711 Timeout : 300 (sec)
Verify return code: 0 (ok)
---
```

The first thing to note in this output is the last line, where you see the **Verify return code**. If there is a certificate issue, the return code will be non-zero and there will be a description of the error.

Expand this list of certificate error code to see common errors and how to remediate them

0 X509_V_OK The operation was successful.

2 X509_V_ERR_UNABLE_TO_GET_ISSUER_CERT The issuer certificate of an untrusted certificate could not be found.

3 X509_V_ERR_UNABLE_TO_GET_CRL The CRL of a certificate could not be found.

4 X509_V_ERR_UNABLE_TO_DECRYPT_CERT_SIGNATURE The certificate signature could not be decrypted. This means that the actual signature value could not be determined rather than it not matching the expected value. This is only meaningful for RSA keys.

5 X509_V_ERR_UNABLE_TO_DECRYPT_CRL_SIGNATURE The CRL signature could not be decrypted. This means that the actual signature value could not be determined rather than it not matching the expected value. Unused.

6 X509_V_ERR_UNABLE_TO_DECODE_ISSUER_PUBLIC_KEY The public key in the certificate SubjectPublicKeyInfo could not be read.

7 X509_V_ERR_CERT_SIGNATURE_FAILURE The signature of the certificate is invalid.

8 X509_V_ERR_CRL_SIGNATURE_FAILURE The signature of the certificate is invalid.

9 X509_V_ERR_CERT_NOT_YET_VALID The certificate is not yet valid: the notBefore date is after the current time. See [Verify return code: 9 \(certificate is not yet valid\)](#) below for more information.

10 X509_V_ERR_CERT_HAS_EXPIRED The certificate has expired; that is, the notAfter date is before the current time. See [Verify return code: 10 \(certificate has expired\)](#) below for more information.

11 X509_V_ERR_CRL_NOT_YET_VALID The CRL is not yet valid.

12 X509_V_ERR_CRL_HAS_EXPIRED The CRL has expired.

13 X509_V_ERR_ERROR_IN_CERT_NOT_BEFORE_FIELD The certificate notBefore field contains an invalid time.

14 X509_V_ERR_ERROR_IN_CERT_NOT_AFTER_FIELD The certificate notAfter field contains an invalid time.

15 X509_V_ERR_ERROR_IN_CRL_LAST_UPDATE_FIELD The CRL lastUpdate field contains an invalid time.

16 X509_V_ERR_ERROR_IN_CRL_NEXT_UPDATE_FIELD The CRL nextUpdate field contains an invalid time.

17 X509_V_ERR_OUT_OF_MEM An error occurred trying to allocate memory. This should never happen.

18 X509_V_ERR_DEPTH_ZERO_SELF_SIGNED_CERT The passed certificate is self-signed and the same certificate cannot be found in the list of trusted certificates.

19 X509_V_ERR_SELF_SIGNED_CERT_IN_CHAIN The certificate chain could be built up using the untrusted certificates but the root could not be found locally.

20 X509_V_ERR_UNABLE_TO_GET_ISSUER_CERT_LOCALLY The issuer certificate of a locally looked up certificate could not be found. This normally means the list of trusted certificates is not complete.

21 X509_V_ERR_UNABLE_TO_VERIFY_LEAF_SIGNATURE No signatures could be verified because the chain contains only one certificate and it is not self-signed. See "Verify return code: 21 (unable to verify the first certificate)" below for more information. [Verify return code: 21 \(unable to verify the first certificate\)](#) below for more information.

22 X509_V_ERR_CERT_CHAIN_TOO_LONG The certificate chain length is greater than the supplied maximum depth. Unused.

23 X509_V_ERR_CERT_REVOKED The certificate has been revoked.

24 X509_V_ERR_INVALID_CA A CA certificate is invalid. Either it is not a CA or its extensions are not consistent with the supplied purpose.

25 X509_V_ERR_PATH_LENGTH_EXCEEDED The basicConstraints pathlength parameter has been exceeded.

26 X509_V_ERR_INVALID_PURPOSE The supplied certificate cannot be used for the specified purpose.

27 X509_V_ERR_CERT_UNTRUSTED The root CA is not marked as trusted for the specified purpose.

28 X509_V_ERR_CERT_REJECTED The root CA is marked to reject the specified purpose.

29 X509_V_ERR_SUBJECT_ISSUER_MISMATCH The current candidate issuer certificate was rejected because its subject name did not match the issuer name of the current certificate. Only displayed when the -issuer_checks option is set.

30 X509_V_ERR_AKID_SKID_MISMATCH The current candidate issuer certificate was rejected because its subject key identifier was present and did not match the authority key identifier current certificate. Only displayed when the -issuer_checks option is set.

31 X509_V_ERR_AKID_ISSUER_SERIAL_MISMATCH The current candidate issuer certificate was rejected because its issuer name and serial number were present and did not match the authority key identifier of the current certificate. Only displayed when the -issuer_checks option is set.

32 X509_V_ERR_KEYUSAGE_NO_CERTSIGN The current candidate issuer certificate was rejected because its keyUsage extension does not permit certificate signing.

50 X509_V_ERR_APPLICATION_VERIFICATION An application specific error. Unused.

New Certificate Detected

If you upgrade a device that has a self-signed certificate and a new certificate is generated after the upgrade process, Security Cloud Control may generate a "New Certificate Detected" message as both a **Configuration Status** and **Connectivity** status. You must manually confirm and resolve this issue before you can continue managing it from Security Cloud Control. Once the certificate is synchronized and the device is in a healthy state, you can manage the device.



Note

When you [bulk reconnect](#) more than one managed device to Security Cloud Control at the same time, Security Cloud Control automatically reviews and accepts the new certificates on the devices and continues to reconnect with them.

Use the following procedure to resolve a new certificate:

1. In the left pane, click **Security Devices**.
2. Use the filter to display devices with a **New Certificate Detected** connectivity or configuration status and select the desired device.
3. In the action pane, click **Review Certificate**. Security Cloud Control allows you to download the certificate for review and accept the new certificate.

4. In the Device Sync window, click **Accept** or in the Reconnecting to Device window, click **Continue**.

Security Cloud Control automatically synchronizes the device with the new self-signed certificate. You may have to manually refresh the page to see the device once it's synced.

Certificate Error Codes

Verify return code: 0 (ok) but Security Cloud Control returns certificate error

Once Security Cloud Control has the certificate, it attempts to connect to the URL of the device by making a GET call to "https://<device_ip>:<port>". If this does not work, Security Cloud Control will display a certificate error. If you find that the certificate is valid (openssl returns 0 ok) the problem may be that a different service is listening on the port you're trying to connect to. You can use the command:

```
curl -k -u <username>:<password>
https://<device_id>:<device_port>/admin/exec/show%20version
```

to determine whether you are definitely talking to an ASA and check if HTTPS server running on the correct port on the ASA:

#	show asp table socket	Protocol	Socket	State	Local Address	Foreign
1	SSL	00019b98	LISTEN	192.168.1.5:443		
2	0.0.0.0:*	SSL	00029e18	LISTEN	192.168.2.5:443	
3	TCP	00032208	LISTEN	192.168.1.5:22		
4	0.0.0.0:*					

Verify return code: 9 (certificate is not yet valid)

This error means that the issuance date of the certificate provided is in the future, so clients will not treat it as valid. This can be caused by a poorly-constructed certificate, or in the case of a self-signed certificate it can be caused by the device time being wrong when it generated the certificate.

You should see a line in the error including the notBefore date of the certificate:

```
depth=0 CN = ASA Temporary Self Signed Certificate
verify error:num=18:self signed certificate
verify return:1
depth=0 CN = ASA Temporary Self Signed Certificate
verify error:num=9:certificate is not yet valid
notBefore=Oct 21 19:43:15 2016 GMT
verify return:1
depth=0 CN = ASA Temporary Self Signed Certificate
notBefore=Oct 21 19:43:15 2016 GMT
```

From this error, you can determine when the certificate will become valid.

Remediation

The notBefore date of the certificate needs to be in the past. You can reissue the certificate with an earlier notBefore date. This issue can also arise when the time is not set correctly either on the client or issuing device.

Verify return code: 10 (certificate has expired)

This error means that at least one of the certificates provided has expired. You should see a line in the error including the notBefore date of the certificate:

```
error 10 at 0 depth lookup:certificate has expired
```

The expiration date is located in the certificate body.

Remediation

If the certificate is truly expired, the only remediation is to get another certificate. If the certificate's expiration is still in the future, but openssl claims that it is expired, check the time and date on your computer. For instance, if a certificate is set to expire in the year 2020, but the date on your computer is in 2021, your computer will treat that certificate as expired.

Verify return code: 21 (unable to verify the first certificate)

This error indicates that there is a problem with the certificate chain, and openssl cannot verify that the certificate presented by the device should be trusted. Let's look at the certificate chain from the example above to see how certificate chains should work:

```
---
Certificate chain
0 s:/C=US/ST=California/L=Mountain View/O=Google Inc/CN=*.google.com
i:/C=US/O=Google Inc/CN=Google Internet Authority G2

-----BEGIN CERTIFICATE-----
MIIH0DCCBrigAwIBAgIIUOMfH+8ftN8wDQYJKoZIhvcNAQELBQAwSTELMAkGA1UE
....lots of base64...
tzW9TylihMhJpZcl4qihFVTgFM7rMU2VHulpJgA59gdbaO/Bf
-----END CERTIFICATE-----

1 s:/C=US/O=Google Inc/CN=Google Internet Authority G2
i:/C=US/O=GeoTrust Inc./CN=GeoTrust Global CA

-----BEGIN CERTIFICATE-----
MIID8DCCAtigAwIBAgIDAjQSMAGCSqGSIb3DQEBCwUAMEIxCzAJBgNVBAYTA1VT
....lots of base64...
tzW9TylihMhJpZcl4qihFVTgFM7rMU2VHulpJgA59gdbaO/Bf
-----END CERTIFICATE-----

2 s:/C=US/O=GeoTrust Inc./CN=GeoTrust Global CA
i:/C=US/O=Equifax/OU=Equifax Secure Certificate Authority

-----BEGIN CERTIFICATE-----
MIIDfTCCAuaGAwIBAgIDervmMA0GCSqGSIb3DQEBCwUAME4xCzAJBgNVBAYTA1VT
....lots of base64...
b8ravHNjkOR/ez4iyz0H7V84dJzjA1BOoa+Y7mHyhD8S
-----END CERTIFICATE----- ---
```

The certificate chain is a list of certificates presented by the server, beginning with the server's own certificate and then including increasingly higher-level intermediate certificates linking the server's certificate with a Certificate Authority's top-level certificate. Each certificate lists its Subject (the line starting with 's:' and its Issuer (the line starting with 'i').

The Subject is the entity identified by the certificate. It includes the Organization name and sometimes the Common Name of the entity for which the certificate was issued.

The Issuer is the entity that issued the certificate. It also includes an Organization field and sometimes a Common Name.

If a server had a certificate issued directly by a trusted Certificate Authority, it would not need to include any other certificates in its certificate chain. It would present one certificate that looked like:

```
--- Certificate chain 0
s:/C=US/ST=California/L=Anytown/O=ExampleCo/CN=*.example.com i:/C=US/O=Trusted
Authority/CN=Trusted Authority
-----BEGIN CERTIFICATE-----
MIIH0DCCBrigAwIBAgIIUOMfH+8ftN8wDQYJKoZIhvcNAQELBQAwSTELMAkGA1UE
....lots of base64...
```

```
tzw9TylihJpZcl4qihFVTgFM7rMU2VHulpJgA59gdbaO/Bf
-----END CERTIFICATE-----
```

Given this certificate, openssl would verify that the ExampleCo certificate for *.example.com was correctly signed by the Trusted Authority certificate, which would be present in openssl's built-in trust store. After that verification, openssl would successfully connect to the device.

However, most servers do not have certificates signed directly by a trusted CA. Instead, as in the first example, the server's certificate is signed by one or more intermediates, and the highest-level intermediate has a certificate signed by the trusted CA. OpenSSL does not trust these intermediate CAs by default, and can only verify them if it is given a complete certificate chain ending in a trusted CA.

It is critically important that servers whose certificates are signed by intermediate authorities supply ALL the certificates linking them to a trusted CA, including all of the intermediate certificates. If they don't supply this entire chain, the output from openssl will look something like this:

```
depth=0 OU = Example Unit, CN = example.com
verify error:num=20:unable to get local issuer certificate
verify return:1

depth=0 OU = Example Unit, CN = example.com
verify error:num=27:certificate not trusted
verify return:1

depth=0 OU = Example Unit, CN = example.com
verify error:num=21:unable to verify the first certificate
verify return:1

CONNECTED(00000003)

---
Certificate chain
0 s:/OU=Example Unit/CN=example.com
i:/C=US/ST=Massachusetts/L=Cambridge/O=Intermediate
Authority/OU=http://certificates.intermediateauth...N=Intermediate Certification
Authority/sn=675637734
-----BEGIN CERTIFICATE-----
...lots of b64...
-----END CERTIFICATE-----
---
Server certificate
subject=/OU=Example Unit/CN=example.com
issuer=/C=US/ST=Massachusetts/L=Cambridge/O=Intermediate
Authority/OU=http://certificates.intermediateauth...N=Intermediate Certification
Authority/sn=675637734
---
No client certificate CA names sent
---
SSL handshake has read 1509 bytes and written 573 bytes
---
New, TLSv1/SSLv3, Cipher is AES256-SHA
Server public key is 2048 bit
Secure Renegotiation IS NOT supported
Compression: NONE
Expansion: NONE
SSL-Session:
Protocol : TLSv1
Cipher : AES256-SHA
Session-ID: 24B45B2D5492A6C5D2D5AC470E42896F9D2DDDD54EF6E3363B7FDA28AB32414B
Session-ID-ctx:
Master-Key:
21BAF9D2E1525A5B935BF107DA3CAF691C1E499286CBEA987F64AE5F603AAF8E65999BD21B06B116FE9968FB7C62EF7C
```

```

Key-Arg : None
Krb5 Principal: None
PSK identity: None
PSK identity hint: None
Start Time: 1476711760
Timeout : 300 (sec)
Verify return code: 21 (unable to verify the first certificate)
---
```

This output shows that the server only provided one certificate, and the provided certificate was signed by an intermediate authority, not a trusted root. The output also shows the characteristic verification errors.

Remediation

This problem is caused by a misconfigured certificate presented by the device. The only way to fix this so that Security Cloud Control or any other program can securely connect to the device is to load the correct certificate chain onto the device, so that it will present a complete certificate chain to connecting clients.

To include the intermediate CA to the trustpoint follow one of the links below (depending on your case - if CSR was generated on the ASA or not):

- <https://www.cisco.com/c/en/us/support/docs/security-vpn/public-key-infrastructure-pki/200339-Configure-ASA-SSL-Digital-Certificate-1.html#anc13>
- <https://www.cisco.com/c/en/us/support/docs/security-vpn/public-key-infrastructure-pki/200339-Configure-ASA-SSL-Digital-Certificate-1.html#anc15>

New Certificate Detected

If you upgrade a device that has a self-signed certificate and a new certificate is generated after the upgrade process, Security Cloud Control may generate a "New Certificate Detected" message as both a **Configuration Status** and **Connectivity** status. You must manually confirm and resolve this issue before you can continue managing it from Security Cloud Control. Once the certificate is synchronized and the device is in a healthy state, you can manage the device.



Note

When you [bulk reconnect devices](#) more than one managed device to Security Cloud Control at the same time, Security Cloud Control automatically reviews and accepts the new certificates on the devices and continues to reconnect with them.

Use the following procedure to resolve a new certificate:

Procedure

1. In the left pane, click **Security Devices**.
2. Click the **Devices** tab.
3. Click the appropriate device type tab.
4. Use the filter to display devices with a **New Certificate Detected** connectivity or configuration status and select the desired device.
5. In the action pane, click **Review Certificate**. Security Cloud Control allows you to download the certificate for review and accept the new certificate.

6. In the Device Sync window, click **Accept** or in the Reconnecting to Device window, click **Continue**.

Security Cloud Control automatically synchronizes the device with the new self-signed certificate. You may have to manually refresh the page to see the device once it's synced.

Troubleshoot Onboarding Error

The device onboarding error can occur for various reasons.

You can take the following actions:

Procedure

1. In the left pane, click **Security Devices**.
 2. Click the appropriate device type tab and select the device running into this error. In some cases, you will see the error description on the right. Take the necessary actions mentioned in the description.
- Or
3. Remove the device instance from Security Cloud Control and try onboarding the device again.
-

Resolve the conflict detected status

Security Cloud Control allows you to enable or disable conflict detection on each live device. If [Conflict Detection](#) on page 105 is enabled and there was a change made to the device's configuration without using Security Cloud Control, the device's configuration status will show **Conflict Detected**.

To resolve a **Conflict Detected** status, follow this procedure:

Procedure

1. From the Security Cloud Control Home page, click **Firewall**.
2. Choose **Security Devices**.



Note

For an On-Premises Firewall Management Center, click **Administration > Integrations > Firewall Management Center** and select the FMC that is in **Not Synced** state and continue from Step 5.

3. Click the **Devices** tab to locate your device.
4. Click the appropriate device type tab.
5. Select the device reporting the conflict and click **Review Conflict** in the details pane on the right.
6. In the **Device Sync** page, compare the two configurations by reviewing the highlighted differences.
 - The panel labeled "Last Known Device Configuration" is the device configuration stored on Security Cloud Control.
 - The panel labeled "Found on Device" is the configuration stored in the running configuration on the ASA.
7. Resolve the conflict by selecting one of the following:

- **Accept Device changes:** This will overwrite the configuration **and any pending changes stored on** Security Cloud Control with the device's running configuration.

 Note

As Security Cloud Control does not support deploying changes to the Cisco IOS devices outside of the command line interface, your only choice for a Cisco IOS device will be to select **Accept Without Review** when resolving the conflict.

- **Reject Device Changes:** This will overwrite the configuration stored on the device with the configuration stored on Security Cloud Control.

 Note

All configuration changes, rejected or accepted, are recorded in the change log.

Resolve the Not Synced Status

Use the following procedure to resolve a device with a "Not Synced" Configuration Status:

Procedure

1. Choose **Security Devices**.

 Note

For an On-Premises Firewall Management Center, click **Administration > Integrations > Firewall Management Center** and select the FMC that is in **Not Synced** state and continue from Step 5.

2. Click the **Devices** tab to locate the device or the **Templates** tab to locate the model device.
3. Click the appropriate device type tab.
4. Select the device reported as Not Synced.
5. In the **Not synced** panel to the right, select either of the following:
 - **Preview and Deploy...** -If you want to push the configuration change from Security Cloud Control to the device, [preview and deploy](#) the changes you made now, or wait and deploy multiple changes at once.
 - **Discard Changes** -If you do **not** want to push the configuration change from Security Cloud Control to the device, or you want to "undo" the configuration changes you started making on Security Cloud Control. This option overwrites the configuration stored in Security Cloud Control with the running configuration stored on the device.

13 FAQ and Support

Topics:

- [Security Cloud Control](#)
- [FAQ about onboarding devices to Security Cloud Control](#)
- [Device types](#)
- [Security](#)
- [Troubleshooting](#)
- [Terminologies and definitions used in Zero-Touch Provisioning](#)
- [Policy optimization](#)
- [Connectivity](#)
- [About Data Interfaces](#)
- [How Security Cloud Control processes personal information](#)
- [Contact Security Cloud Control support](#)

This chapter contains the following sections:

Security Cloud Control

Learn how Security Cloud Control helps administrators create, monitor, and maintain consistent security policies across supported devices from a single cloud-based interface.

What is Security Cloud Control?

Security Cloud Control (formerly Cisco Defense Orchestrator) is a cloud-based multi-device manager that allows network administrators to create and maintain consistent security policies across various security devices.

You can use Security Cloud Control to manage these devices:

- Cisco Secure Firewall ASA
- Cisco Secure Firewall Threat Defense
- Cisco Umbrella
- Meraki
- Cisco IOS devices
- Amazon Web Services (AWS) instances
- Devices administered using an SSH connection

Security Cloud Control administrators can monitor and maintain all these device types through a single interface.

FAQ about onboarding devices to Security Cloud Control

Learn about onboarding FAQs for supported device types in Security Cloud Control, including Secure Firewall ASA, Firewall Threat Defense, on-premises Firewall Management Center, Meraki, SSH, and IOS devices.

FAQs About Onboarding Secure Firewall ASA to Security Cloud Control

How do I onboard an ASA using credentials?

You can onboard ASAs one at a time or in a bulk operation. device at a time. When onboarding an ASA that is part of a high-availability pair, use [Onboard an ASA Device](#) to onboard only the primary device of the pair. The method of onboarding a security context or admin context is the same for onboarding any other ASA.

How do I onboard more than one ASA at a time?

You can create a list of ASAs using a CSV file, and Security Cloud Control will onboard all the ASAs in the list. See [Onboard ASAs in Bulk](#) for instructions on how to bulk onboard ASAs.

What do I do after onboarding my ASAs?

See [Managing ASA with Security Cloud Control](#) to get started.

FAQs About Onboarding Secure Firewall Threat Defense to Cloud-Delivered Firewall Management Center

How do I onboard Secure Firewall Threat Defense?

You can onboard an FTD device using a CLI registration key, through zero-touch provisioning, or with a serial number.

What do I do after onboarding my Secure Firewall Threat Defense?

Once the device is synchronized, navigate to **Administration > Integrations > Firewall Management Center** and select an action from the Actions, Management, or Settings pane to begin configuring your threat defense device in Cloud-Delivered Firewall Management Center. See [Cloud-delivered Firewall Management Center Application Page](#) to get started.

How do I troubleshoot my Secure Firewall Threat Defense?

See [Troubleshoot Onboarding Secure Firewall Threat Defense](#).

FAQs About on-premises Firewall Management Center

This concept explains how you can onboard an on-premises Firewall Management Center to Security Cloud Control, but device management changes must still be made directly in the on-premises Firewall Management Center UI.

How do I onboard an on-premises Firewall Management Center?

You can onboard an on-premises Firewall Management Center to Security Cloud Control. Onboarding an on-premises Firewall Management Center also onboards all the devices registered to on-premises Firewall Management Center. Security Cloud Control does not support creating or modifying objects or policies associated with on-premises Firewall Management Center or the devices registered to on-premises Firewall Management Center. You must make these changes in the on-premises Firewall Management Center UI. For more information, see [Onboard an On-Prem Management Center](#).

FAQs About Onboarding Meraki Devices to Security Cloud Control**How do I onboard a Meraki device?**

MX devices can be managed by both Security Cloud Control and the Meraki dashboard. Security Cloud Control deploys configuration changes to the Meraki dashboard, which in turn deploys the configuration securely to the device. See [Onboard Meraki MX Devices](#) to get started.

FAQs About Onboarding SSH Devices to Security Cloud Control**How do I onboard an SSH device?**

You can use the username and password of a highly privileged user stored on the SSH device to onboard the device with a Secure Device Connector (SDC). See [Onboard an SSH Device](#) to get started.

How do I delete a device?

You can delete a device from the **Security Devices** page.

FAQs About Onboarding IOS Devices to Security Cloud Control**How do I onboard a Cisco IOS device?**

You can onboard a live Cisco device running Cisco IOS (Internetwork Operating System) with a Secure Device Connector (SDC). See [Onboard a Cisco IOS Device](#) to get started.

How do I delete a device?

You can delete a device from the **Security Devices** page.

Device types

Learn about frequently asked questions for device types in Security Cloud Control, including sync and conflict states, deployment behavior, scale limits, and support for ISR, ASR, and SMA devices.

What is an Adaptive Security Appliance (ASA)?

The Cisco ASA provides advanced stateful firewall and VPN concentrator functionality in one device as well as integrated services with add-on modules. The ASA includes many advanced features, such as multiple security contexts (similar to virtualized firewalls), clustering (combining multiple firewalls into a single firewall), transparent (Layer 2) firewall or routed (Layer 3) firewall operation, advanced inspection engines, IPsec VPN, SSL VPN, and clientless SSL VPN support, and many more features. ASAs can be installed on virtual machines or supported hardware.

What is an ASA Model?

An ASA model is a copy of the running configuration file of an ASA device that you have onboarded to Security Cloud Control. You can use an ASA model to analyze the configuration of an ASA device without onboarding the device itself.

When is a device Synced?

When the configuration on Security Cloud Control and the configuration stored locally on the device are the same.

When is a device Not Synced?

When the configuration stored in Security Cloud Control was changed and it is now different that the configuration stored locally on the device.

When is a device in a Conflict Detected state?

When the configuration on the device was changed outside of Security Cloud Control (out-of-band), and is now different than the configuration stored on Security Cloud Control.

What is an out-of-band change?

When a change is made to the device outside of Security Cloud Control. The change is made directly on the device using CLI command or by using the on-device manager such as ASDM or FDM. An out-of-band change causes Security Cloud Control to report a "Conflict Detected" state for the device.

What does it mean to deploy a change to a device?

After you onboard a device to Security Cloud Control, Security Cloud Control maintains a copy of its configuration. When you make a change on Security Cloud Control, Security Cloud Control makes a change to its copy of the device's configuration. When you "deploy" that change back to a device, Security Cloud Control copies the changes you made to the device's copy of its configuration. See these topics:

- [Preview and deploy configuration changes for all devices](#) on page 99

What ASA commands are currently supported?

All commands. Click the **Command Line Interface** link under Device Actions to use the ASA CLI.

Are there any scale limitations for device management?

Security Cloud Control's cloud architecture allows it to scale to thousands of devices.

Does Security Cloud Control manage Cisco Integrated Services Routers and Aggregation Services Routers?

Security Cloud Control allows you to create a model device for ISRs and ASRs and import its configuration. You can then create templates based on the imported configurations and export the configuration as a standardized configuration that can be deployed to new or existing ISR and ASR devices for consistent security.

Can Security Cloud Control manage SMA?

No, Security Cloud Control does not currently manage SMA.

Security

Learn about security FAQs, including data protection, multi-factor authentication, OTP login errors, Secure Device Connector usage, private device connectivity, and VPN tunnel status checks.

I received the error "Could not validate your OTP" when logging into Security Cloud Control for the first time

Check that your desktop or mobile device clock is synchronized with a world time server. Clocks being out of sync by less or more than a minute can cause incorrect OTPs to be generated.

Is my device connected directly to Security Cloud Control cloud platform?

Yes. The secured connection is performed using the Security Cloud Control SDC which is used as a proxy between the device and Security Cloud Control platform. Security Cloud Control architecture, designed with security first in mind, enables having complete separation between data traversing back and forth to the device.

Does the SDC require any additional cost or license?

No.

How can I check the tunnel status? State options

Security Cloud Control performs the tunnel connectivity checks automatically every hour, however ad-hoc VPN tunnel connectivity checks can be performed by choosing a tunnel and requesting to check connectivity. Results may take several seconds to process.

Can I search a tunnel based on the device name as well as its IP address of one of its peers?

Yes. Search and pivot to a specific VPN tunnel details by using available filters and search capabilities on both name and the peers IP addresses.

Troubleshooting

Learn about troubleshooting FAQs for Security Cloud Control, including deployment warnings, out-of-band configuration differences, conflict resolution, and certificate rejection issues.

While performing complete deploy of device configuration from Security Cloud Control to managed device, I get a warning "Cannot deploy changes to device". What can I do to solve that?

If an error occurs when you deploy a full configuration (changes performed beyond Security Cloud Control supported commands) to the device, click "Check for changes" to pull the latest available configuration from device. This may solve the problem and you will be able to continue making changes on Security Cloud Control and deploy them. In case the issue persists, please contact Cisco TAC from the **Contact Support** page.

While resolving out-of-band issue (changes performed outside of Security Cloud Control; directly to a device), comparing the configuration present in Security Cloud Control that of the device, Security Cloud Control presents additional metadata that were not added or modified by me. Why?

As Security Cloud Control expands its functionality, additional information will be collected from the device's configuration to enrich and maintain all required data for better policy and device management analysis. These are not changes that occurred on managed device but already existing information. Resolving the conflict detected state can be easily solved by checking for changes from the device and reviewing the changes occurred.

Why is Security Cloud Control rejecting my certificate?

See [Resolving New Certificates](#)

Terminologies and definitions used in Zero-Touch Provisioning

Learn about FAQs for zero-touch provisioning terminology in Security Cloud Control, including claimed and parked devices, initial provisioning, and how FTD devices are onboarded through the Cisco Cloud.

- **Claimed** - Used in the context of serial number onboarding in Security Cloud Control. A device is "claimed" if its serial number has been onboarded to a Security Cloud Control tenant.
- **Parked** - Used in the context of serial number onboarding in Security Cloud Control. A device is "parked" if it has connected to the Cisco Cloud, and a Security Cloud Control tenant has not claimed its serial number.
- **Initial provisioning** - Used in the context of the initial FTD setup. During this phase, the device accepts EULA, creates a new password, configures management IP address, sets FQDN, sets DNS servers, and chooses to manage the device locally with FDM.
- **Zero-Touch Provisioning** - It is the process of shipping an FTD from the factory to a customer site (typically a branch office), an employee at the site connects the FTD to their network, and the device contacts the Cisco Cloud. At that point, the device is onboarded to Security Cloud Control tenant if its serial number has already been "claimed," or the FTD is "parked" in the Cisco cloud until a Security Cloud Control tenant claims it.

Policy optimization

Learn about FAQs for policy optimization in Security Cloud Control, including how to identify fully shadowed access rules within the same access group using Network Policy Management.

How can I identify a case when two or more access lists (within the same access group) are shadowing each other?

Security Cloud Control Network Policy Management (NPM) is able to identify and alert the user if within a rule set, a rule higher in order, is shadowing a different rule. User can either navigate between all network policies or filter to identify all shadow issues.

 Note

Security Cloud Control supports only fully shadowed rules.

Connectivity

Learn about Security Cloud Control connectivity FAQs, including how to handle SDC IP address changes, update device IP addresses, reconnect managed devices, and meet ASA networking requirements.

The Secure Device Connector changed IP address, but this was not reflected within Security Cloud Control. What can I do to reflect the change?

In order to obtain and update the new Secure Device Connector (SDC) within Security Cloud Control, you will need to restart the container using the following commands:

```
Stop Docker daemon>#service docker stop
Change IP address
Start Docker daemon >#service docker start
Restart container on the SDC virtual appliance >bash-4.2$
./cdo/toolkit/toolkit.sh restartSDC <tenant-name>
```

What happens if the IP address used by Security Cloud Control to manage my devices (FTD or ASA) changes?

If the IP address of the device changes for any reason, whether it is a change in the static IP address or a change in the IP address due to DHCP, you can change the IP address that Security Cloud Control uses to connect to the device (see [Changing a device's IP address in Security Cloud Control Firewall Management](#) on page 65) and then reconnect the device (see [Bulk reconnect devices to Security Cloud Control Firewall Management](#) on page 69). When reconnecting the device you will be asked to enter the new IP address of the device as well as re-enter the authentication credentials.

What networking is required to connect my ASA to Security Cloud Control?

- ASDM image present and enabled for ASA.
- Public interface access to 52.25.109.29, 52.34.234.2, 52.36.70.147
- ASA's HTTPS port must be set to 443 or to a value of 1024 or higher. For example, it cannot be set to port 636.
- If the ASA under management is also configured to accept AnyConnect VPN Client connections, the ASA HTTPS port must be changed to a value of 1024 or higher.

About Data Interfaces

Learn about data interface, including using management or data interfaces for FTD communication, remote management from outside interfaces, high availability support, and key data interface limitations.

You can use either the dedicated management interface or a regular data interface for communication with the device. Security Cloud Control access on a data interface is useful if you want to manage the FTD remotely from the outside interface, or you do not have a separate management network. Security Cloud Control supports high availability on the FTD managed remotely from the data interface.

FTD management access from a data interface has the following limitations:

- You can only enable manager access on one physical, data interface. You cannot use a subinterface or EtherChannel.

- Routed firewall mode only, using a routed interface.
- PPPoE is not supported. If your ISP requires PPPoE, you will have to put a router with PPPoE support between the FTD and the WAN modem.
- The interface must be in the global VRF only.
- SSH is not enabled by default for data interfaces, so you will have to enable SSH later using Security Cloud Control. Because the management interface gateway will be changed to be the data interfaces, you also cannot SSH to the management interface from a remote network unless you add a static route for the management interface using the `configure network static-routes` command.

How Security Cloud Control processes personal information

Learn about FAQs for how Security Cloud Control processes personal information, including where to find Cisco's Privacy Data Sheet for details on handling personally identifiable information.

To learn how Security Cloud Control processes your personal identifiable information, see the [Security Cloud Control Privacy Data Sheet](#).

Contact Security Cloud Control support

Learn how to contact Security Cloud Control support, export workflow details, open a Cisco TAC support ticket, and check the Security Cloud Control service status page.

This chapter covers the following sections:

Export The Workflow

We strongly recommend exporting the workflow of a device that is experience issues prior to opening a support ticket. This additional information can help the support team expeditiously identify and correct any troubleshooting efforts.

Use the following procedure to export the workflow:

Procedure

1. In the left pane, click **Security Devices**.
 2. Click the **Devices** tab to locate your device.
 3. Click the appropriate device type tab and select the device you need to troubleshoot.
Use the **filter** or **search bar** to locate the device you need to troubleshoot. Select the device so it is highlighted.
 4. In the **Device Actions** pane, select **Workflows**.
 5. Click the **Export** button located at the top right of the page, above the table of events. The file automatically saves locally as a **.json** file. Attach this to any emails or tickets you open with TAC.
-

Open a Support Ticket with TAC

A customer using a 30-day trial or a licensed Security Cloud Control account can open a support ticket with Cisco's Technical Assistance Center (TAC).

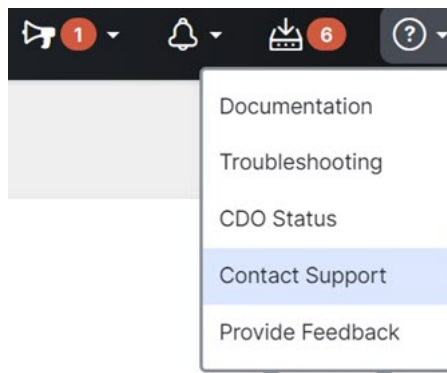
- [How Security Cloud Control Customers Open a Support Ticket with TAC.](#)
- [How Security Cloud Control Trial Customers Open a Support Ticket with TAC.](#)

How Security Cloud Control Customers Open a Support Ticket with TAC

This section explains how a customer using a licensed Security Cloud Control tenant can open a support ticket with Cisco's Technical Assistance Center (TAC).

Procedure

1. Log in to Security Cloud Control.
2. Next to your tenant name, click the help button and select **Contact Support**.



3. Click **Support Case Manager**.
4. Click the blue **Open New Case** button.
5. Click **Open Case**.
6. Select **Products and Services** and then click **Open Case**.
7. Choose a **Request Type**.
8. Expand **Find Product by Service Agreement** row.
9. Fill in all the fields. Many of the fields are obvious. This is some additional information:
 - **Product Name (PID)** - If you no longer have this number, see the [Security Cloud Control Data Sheet](#).
 - **Product Description** - This is the description of the PID.
 - **Site Name** - Enter your site name. If you are a Cisco Partner opening a case for one of your customers, enter the customer's name.
 - **Service Contract** - Enter your service contract number.
 - **Important:** In order for your case to be associated with your Cisco.com account, you need to associate your contract number to your Cisco.com profile. Use this procedure to associate your contract number to your Cisco.com profile.
 - a. Open to [Cisco Profile Manager](#).
 - b. Click the **Access Management** tab.
 - c. Click **Add Access**.
 - d. Choose **TAC and RMA case creation, Software Download, support tools, and entitled content on Cisco.com** and click **Go**.
 - e. Enter service contracts number(s) in the space provided and click **Submit**. You will receive notification via email that the service contract associations have been completed. Service contract association can take up to 6 hours to complete.

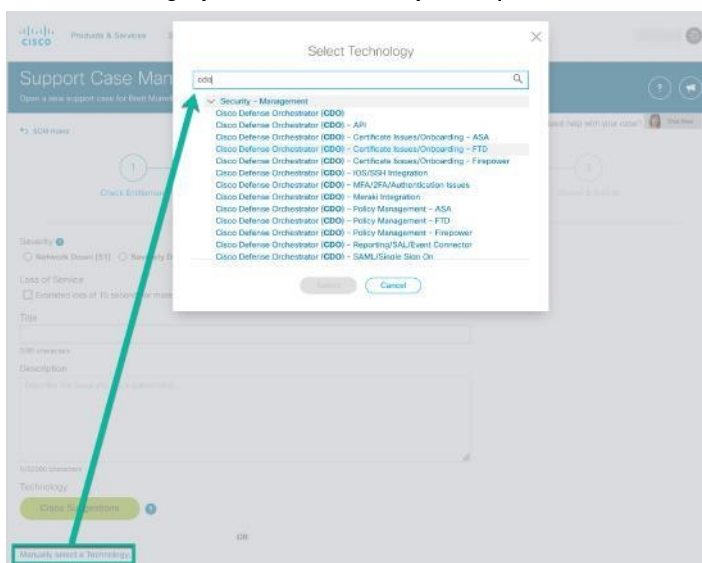
Important

Important: If you are not able to access any of the links below, please contact your authorized Cisco partner or re-seller, your Cisco account representative, or the individual in your company who manages Cisco service agreement information.

10. Click **Next**.

11. In the **Describe Problem** screen, scroll down to **Manually select a Technology**, click it, and type **Security Cloud Control** in the search field.

12. Select the category that best matches your request, and click **Select**.



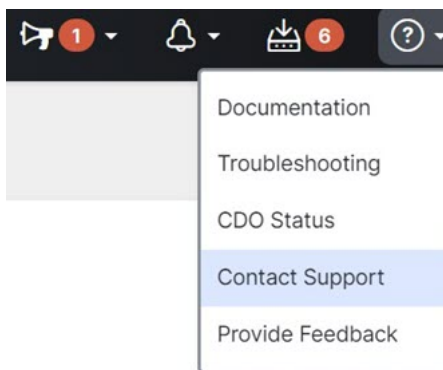
13. Complete the remainder of the service request and click **Submit**.

How Security Cloud Control Trial Customers Open a Support Ticket with TAC

This section explains how a customer using a free trial of a Security Cloud Control tenant can open a support ticket with Cisco's Technical Assistance Center (TAC).

Procedure

1. Log in to Security Cloud Control.
2. Next to your tenant and account name, click the help button and select **Contact Support**.



3. In the **Enter Issue or request below** field, specify the issue that you are facing or your request and click **Submit**.

Your request, along with the technical information, will be sent to the support team, and a technical support engineer will respond to your query.

Security Cloud Control Service Status Page

Security Cloud Control maintains a customer-facing service status page that shows you if the Security Cloud Control service is up and any service interruptions it may have had. You can view up-time information with daily, weekly, or monthly graphs.

You can reach the Security Cloud Control status page by clicking [Security Cloud Control Status](#) in the help menu on any page in Security Cloud Control.

On the status page, you can click the **Subscribe to Updates** to receive a notification if the Security Cloud Control service goes down.

