Cisco ASA CX Module Quick Start Guide

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1. About the ASA CX Module

The ASA CX module comes as hardware module for the ASA 5585-X and as a software module for the ASA 5500-X. For ASA model software and hardware compatibility with the ASA CX module, see Cisco ASA Compatibility.

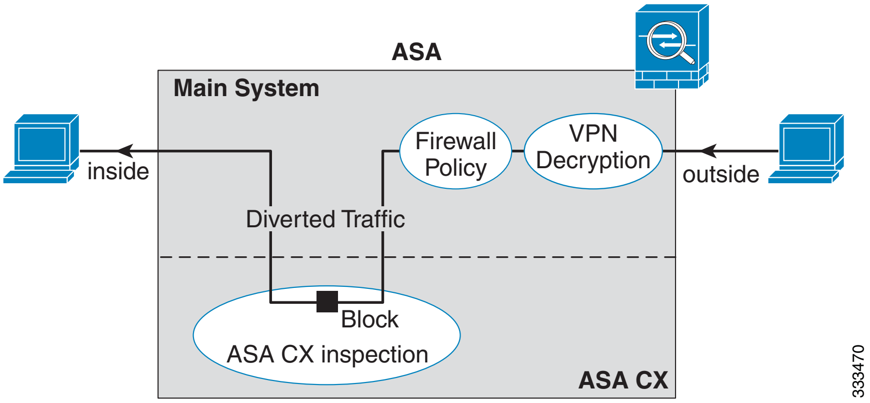
The ASA CX module lets you enforce security based on the complete context of a situation. This context includes the identity of the user (who), the application or website that the user is trying to access (what), the origin of the access attempt (where), the time of the attempted access (when), and the properties of the device used for the access (how). With the ASA CX module, you can extract the full context of a flow and enforce granular policies such as permitting access to Facebook but denying access to games on Facebook or permitting finance employees access to a sensitive enterprise database but denying the same to other employees.

The ASA CX module runs an application that is separate from the ASA. Configuring the ASA CX module requires two parts: the ASA CX policy configuration, using Cisco Prime Security Manager (PRSM); and the ASA policy for redirecting traffic to the ASA CX module, using ASDM.

Traffic undergoes the firewall checks on the ASA before being forwarded to the ASA CX module. When you identify traffic for ASA CX inspection on the ASA, traffic flows through the ASA and the ASA CX module as described in the following steps:

1. Traffic enters the ASA.
2. Incoming VPN traffic is decrypted.
3. Firewall policies are applied.
4. Traffic is sent to the ASA CX module.
5. The ASA CX module applies its security policy to the traffic, and takes appropriate actions.
6. Valid traffic is sent back to the ASA; the ASA CX module might block some traffic according to its security policy, and that traffic is not passed on.
7. Outgoing VPN traffic is encrypted.
8. Traffic exits the ASA.

The following figure shows the traffic flow when using the ASA CX module. In this example, the ASA CX module automatically blocks traffic that is not allowed for a certain application. All other traffic is forwarded through the ASA.

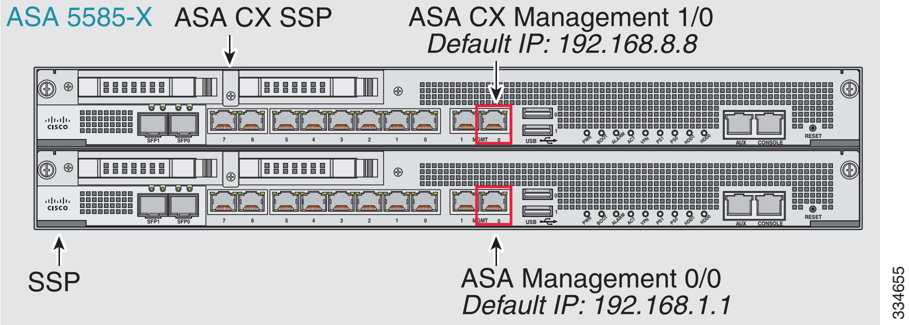


2. Connect the ASA CX Management Interface

In addition to providing management access to the ASA CX module, the ASA CX management interface needs access to an HTTP proxy server or a DNS server and the Internet for signature updates and more.

ASA 5585-X

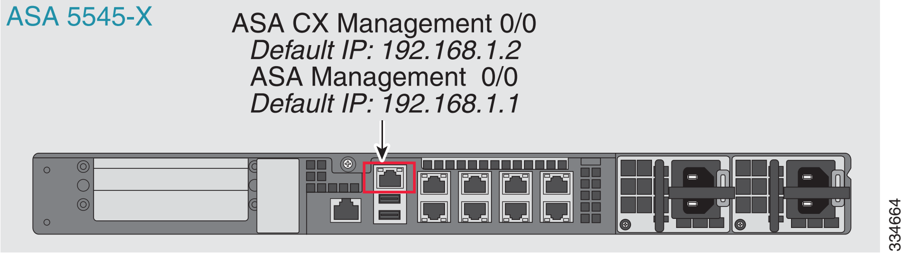
The ASA CX hardware module includes a separate Management 1/0 interface with the default IP address 192.168.8.8:



For details about how to connect the ASA CX management interface in your network, see the ASA 5585-X quick start guide.

ASA 5500-X

These models run the ASA CX module as a software module, and the ASA CX management interface shares the Management 0/0 interface with the ASA. The module default address is 192.168.1.2.



The ASA default configuration only allows ASA CX module access to the Internet if you have an inside router that can route between the management network and an ASA inside data network. For details about how to connect the ASA CX management interface for use with an inside switch, see the ASA 5500-X quick start guide.

3. Launch ASDM

Using ASDM, you can use wizards to configure basic and advanced features. ASDM is a graphical user interface that allows you to manage the ASA using a web browser. See the ASDM release notes on Cisco.com for the requirements to run ASDM.

Procedure

1. On the computer connected to the ASA, launch a web browser. If you are using the default configuration, you need to connect the computer to the Management 0/0 interface.
2. In the Address field, enter the following URL: **https://192.168.1.1/admin**. The **Cisco ASDM** web page appears.
3. Click one of the available options: **Install ASDM Launcher**, **Run ASDM**, or **Run Startup Wizard**.
4. Follow the onscreen instructions to launch ASDM according to the option you chose. The **Cisco ASDM-IDM Launcher** appears.
5. Leave the username and password fields empty, and click **OK**. The main ASDM window appears.

4. (ASA 5585-X) Change the ASA CX Management IP Address

If you cannot use the default management IP address for the module, then you can set the management IP address from the ASA. After you set the management IP address, you can access the ASA CX module using SSH to perform initial setup.

Note: For a software module, you can access the ASA CX CLI to perform setup by sessioning from the ASA CLI; you can then set the ASA CX management IP address as part of setup. See 6. Configure Basic ASA CX Settings at the ASA CX CLI, page 7.

Procedure

1. In ASDM, choose **Wizards > Startup Wizard**.
2. Click **Next** to advance through the initial screens until you reach the **ASA CX Basic Configuration** screen.
3. Enter the new management IP address, subnet mask, and default gateway.
4. (Optional) Change the **Auth Proxy Port**.
5. Click **Finish** to skip the remaining screens, or click **Next** to advance through the remaining screens and complete the wizard.

5. (ASA 5500-X; May Be Required) Install the Software Module

If you purchase the ASA with the ASA CX module, the module software and solid state drive(s) (SSDs) come pre-installed and ready to go. If you want to add the ASA CX to an existing ASA, or need to replace the SSD, you need to install the ASA CX boot software and partition the SSD according to this procedure. Only Cisco SSDs are supported. To physically install the SSD, see the ASA hardware guide.

Note: The free space on flash (disk0) should be at least 3GB plus the size of the boot software.

Procedure

1. Download the ASA CX *boot* software from Cisco.com to your computer. If you have a Cisco.com login, you can obtain the boot software from the following website:

http://www.cisco.com/cisco/software/release.html?mdfid=284325223&softwareid=284399946

The boot software lets you set basic ASA CX network configuration, partition the SSD, and download the larger system software from a server of your choice to the SSD.

2. Download the ASA CX *system* software from Cisco.com to an HTTP, HTTPS, or FTP server accessible from the ASA CX management interface. If you have a Cisco.com login, you can obtain the system software from the following website:

   http://www.cisco.com/cisco/software/release.html?mdfid=284325223&softwareid=284399944

3. In ASDM, choose **Tools > File Management**, and then choose **File Transfer > Between Local PC and Flash**. Transfer the boot software to disk0 on the ASA. Do not transfer the system software; it is downloaded later to the SSD.

4. Connect to the ASA CLI, and enter privileged EXEC mode. See the “Getting Started” chapter in the ASA general operations configuration guide configuration guide to access the ASA CLI.

5. If you are replacing the IPS module with the ASA CX module, shut down and uninstall the IPS module, and then reload the ASA:

   ```
   ciscoasa# sw-module module ips shutdown
   ciscoasa# sw-module module ips uninstall
   ciscoasa# reload
   ```

   After the ASA reloads, reconnect to the ASA CLI.

6. Set the ASA CX module boot image location in ASA disk0:

   ```
   ciscoasa# sw-module module cxsc recover configure image disk0:file_path
   ```

   Example:

   ```
   ciscoasa# sw-module module cxsc recover configure image disk0:asacx-boot-9.1.1.img
   ```

7. Load the ASA CX boot image:

   ```
   ciscoasa# sw-module module cxsc recover boot
   ```

8. Wait approximately 5 minutes for the ASA CX module to boot up, and then open a console session to the now-running ASA CX boot image. The default username is **admin** and the default password is **Admin123**.

   ```
   ciscoasa# session cxsc console
   Establishing console session with slot 1
   Opening console session with module cxsc.
   Connected to module cxsc. Escape character sequence is 'CTRL-SHIFT-6 then x'.
   cxsc login: admin
   Password: Admin123
   ```

9. Partition the SSD:

   ```
   asacx-boot> partition
   ....
   Partition Successfully Completed
   ```

10. Perform the basic network setup using the **setup** command according to 6. Configure Basic ASA CX Settings at the ASA CX CLI, page 7 (do not exit the ASA CX CLI), and then return to this procedure to install the software image.

11. Install the system software from the HTTP, HTTPS, or FTP server where you copied the system software (see 2.):

    ```
    asacx-boot> system install url
    ```

    Example:

    The following command installs the asacx-sys-9.1.1.pkg system software from an HTTPS server.

    ```
    asacx-boot> system install https://upgrades.example.com/packages/asacx-sys-9.1.1.pkg
    Username: buffy
    ```

```
Password: angelforever
Verifying
Downloading
Extracting
Package Detail
        Description:
        Requires reboot:
Cisco ASA CX System Upgrade
Yes
Do you want to continue with upgrade? [n]: Y
Warning: Please do not interrupt the process or turn off the system. Doing so might leave system in
unusable state.
Upgrading
Stopping all the services ...
Starting upgrade process ...
Reboot is required to complete the upgrade. Press Enter to reboot the system.
```

12. Press **Enter** to reboot the ASA CX module. Rebooting the module closes the console session. Allow 10 or more minutes for application component installation and for the ASA CX services to start.

6. Configure Basic ASA CX Settings at the ASA CX CLI

You must configure basic network settings and other parameters on the ASA CX module before you can configure your security policy.

Procedure

1. Do one of the following:
   - (All models) Use SSH to connect to the ASA CX management IP address.
   - (ASA 5512-X through ASA 5555-X) Open a console session to the module from the ASA CLI (see the “Getting Started” chapter in the ASA general operations configuration guide to access the ASA CLI):

     ```
     ciscoasa# session cxsc console
     ```

2. Log in with the username **admin** and the password **Admin123**. You will change the password as part of this procedure.

3. Enter the following command:

   ```
   asacx> setup
   ```

   Example:

   ```
   asacx> setup
   Welcome to Cisco Prime Security Manager Setup
   [hit Ctrl-C to abort]
   Default values are inside [ ]
   ```

   The following example shows a typical path through the wizard. **Note:** You can configure IPv6 stateless auto configuration by answering **N** when asked if you want to configure a static IPv6 address.

   ```
   Enter a hostname [asacx]: asa-cx-host
   Do you want to configure IPv4 address on management interface?(y/n) [Y]: Y
   Do you want to enable DHCP for IPv4 address assignment on management interface?(y/n)[N]: N
   Enter an IPv4 address [192.168.8.8]: 10.89.31.65
   Enter the netmask [255.255.255.0]: 255.255.255.0
   Enter the gateway [192.168.8.1]: 10.89.31.1
   Do you want to configure static IPv6 address on management interface?(y/n) [N]: Y
   Enter an IPv6 address: 2001:DB8:0:CD30::1234/64
   Enter the gateway: 2001:DB8:0:CD30::1
   Enter the primary DNS server IP address [ ]: 10.89.47.11
   ```

```
Do you want to configure Secondary DNS Server? (y/n) [N]: N
Do you want to configure Local Domain Name? (y/n) [N] Y
Enter the local domain name: example.com
Do you want to configure Search domains? (y/n) [N] Y
Enter the comma separated list for search domains: example.com
Do you want to enable the NTP service?(y/n) [N]: Y
Enter the NTP servers separated by commas: 1.ntp.example.com, 2.ntp.example.com
```

4. After you complete the final prompt, you are presented with a summary of the settings. Look over the summary to verify that the values are correct, and enter **Y** to apply your changed configuration. Enter **N** to cancel your changes.

   Example:

```
Apply the changes?(y,n) [Y]: Y
Configuration saved successfully!
Applying...
Done.
Generating self-signed certificate, the web server will be restarted after that
...
Done.
Press ENTER to continue...
asacx>
```

5. If you do not use NTP, configure the time settings. The default time zone is the UTC time zone. You can use the following commands to change time settings:

```
asacx> config timezone
asacx> config time
```

6. Change the admin password by entering the following command:

```
asacx> config passwd
```

   Example:

```
asacx> config passwd
The password must be at least 8 characters long and must contain
at least one uppercase letter (A-Z), at least one lowercase letter
(a-z) and at least one digit (0-9).
Enter password: Farscape1
Confirm password: Farscape1
SUCCESS: Password changed for user admin
```

7. Enter the **exit** command to log out.

7. Redirect Traffic to the ASA CX Module

This section identifies traffic to redirect from the ASA to the ASA CX module. Configure this policy on the ASA.

Note: When using PRSM in multiple device mode, you can configure the ASA policy for sending traffic to the ASA CX module within PRSM, instead of using ASDM. However, PRSM has some limitations when configuring the ASA service policy; see the ASA CX user guide for more information.

Note: If you enable the authentication proxy on the ASA using this procedure, be sure to also configure a directory realm for authentication on the ASA CX module. See the ASA CX user guide for more information.

Note: If you have an active service policy redirecting traffic to an IPS module (that you replaced with the ASA CX), you must remove that policy before you configure the ASA CX service policy.

Procedure

1. In ASDM, choose **Configuration > Firewall > Service Policy Rules**.

2. Choose **Add > Add Service Policy Rule**. The **Add Service Policy Rule Wizard - Service Policy** dialog box appears.

3. Complete the **Service Policy** dialog box as desired. See the ASDM online help for more information about these screens.
4. Click **Next**. The **Add Service Policy Rule Wizard - Traffic Classification Criteria** dialog box appears.
5. Complete the **Traffic Classification Criteria** dialog box as desired. See the ASDM online help for more information about these screens.
6. Click **Next** to show the **Add Service Policy Rule Wizard - Rule Actions** dialog box.
7. Click the **ASA CX Inspection** tab.
8. Check the **Enable ASA CX for this traffic flow** check box.
9. In the If ASA CX Card Fails area, click **Permit traffic** or **Close traffic**. The **Close traffic** option sets the ASA to block all traffic if the ASA CX module is unavailable. The **Permit traffic** option sets the ASA to allow all traffic through, uninspected, if the ASA CX module is unavailable.
10. To enable the authentication proxy, which is required for active authentication, check the **Enable Auth Proxy** check box.
11. Click **OK** and then click **Apply**.
12. Repeat this procedure to configure additional traffic flows as desired.

8. Configure the Security Policy on the ASA CX Module Using PRSM

This section describes how to launch PRSM to configure the ASA CX module application. For details on using PRSM to configure your ASA CX security policy, see the ASA CX documentation roadmap.

Note: If you do not configure any policies on the ASA CX, all traffic redirected to the ASA CX will be allowed by default, and you can view the various reports in the ASA CX web interface to analyze the traffic.

You can launch PRSM from your web browser, or you can launch it from ASDM.

- Launch PRSM from a web browser by enter the following URL:

  https://*ASA_CX_management_IP*

  Where the ASA CX management IP address is the one you set in 6. Configure Basic ASA CX Settings at the ASA CX CLI, page 7.

- Launch PRSM from ASDM by choosing **Home > ASA CX Status**, and clicking the **Connect to the ASA CX application** link.

9. Where to Go Next

- For detailed information about managing the ASA CX module from the ASA, see the ASA CX chapter in the ASA firewall configuration guide.
- For more information about the ASA CX module, see the ASA CX documentation roadmap.
- See also the ASA CX home page.