



License Management for the ASA

Cisco Smart Software Licensing lets you purchase and manage a pool of licenses centrally. You can easily deploy or retire devices without having to manage each unit's license key. Smart Software Licensing also lets you see your license usage and needs at a glance.



Note

This section only applies to ASA logical devices on the Firepower 9300 chassis. For more information on licensing for Firepower Threat Defense logical devices, see the Firepower Management Center Configuration Guide.

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About Smart Software Licensing

This section describes how Smart Software Licensing works.



Note

This section only applies to ASA logical devices on the Firepower 9300 chassis. For more information on licensing for Firepower Threat Defense logical devices, see the Firepower Management Center Configuration Guide.

Smart Software Licensing for the ASA

For the ASA application on the Firepower 9300 chassis, Smart Software Licensing configuration is split between the Firepower 9300 chassis supervisor and the application.

- Firepower 9300 chassis—Configure all Smart Software Licensing infrastructure in the supervisor, including parameters for communicating with the License Authority. The Firepower 9300 chassis itself does not require any licenses to operate.
- ASA Application—Configure all license entitlements in the application.

Smart Software Manager and Accounts

When you purchase 1 or more licenses for the device, you manage them in the Cisco Smart Software Manager:

<https://software.cisco.com/#module/SmartLicensing>

The Smart Software Manager lets you create a master account for your organization.



Note

If you do not yet have an account, click the link to [set up a new account](#). The Smart Software Manager lets you create a master account for your organization.

By default, your licenses are assigned to the *Default Virtual Account* under your master account. As the account administrator, you can optionally create additional virtual accounts; for example, you can create accounts for regions, departments, or subsidiaries. Multiple virtual accounts let you more easily manage large numbers of licenses and devices.

Licenses and Devices Managed per Virtual Account

Licenses and devices are managed per virtual account: only that virtual account's devices can use the licenses assigned to the account. If you need additional licenses, you can transfer an unused license from another virtual account. You can also transfer devices between virtual accounts.

Only the Firepower 9300 chassis registers as a device, while the ASA applications in the chassis request their own licenses. For example, for a Firepower 9300 chassis with 3 security modules, the chassis counts as one device, but the modules use 3 separate licenses.

Evaluation License

The Firepower 9300 chassis supports two types of evaluation license:

- Chassis-level evaluation mode—Before the Firepower 9300 chassis registers with the Licensing Authority, it operates for 90 days (total usage) in evaluation mode. The ASA cannot request specific entitlements in this mode; only default entitlements are enabled. When this period ends, the Firepower 9300 chassis becomes out-of-compliance.
- Entitlement-based evaluation mode—After the Firepower 9300 chassis registers with the Licensing Authority, you can obtain time-based evaluation licenses that can be assigned to the ASA. In the ASA, you request entitlements as usual. When the time-based license expires, you need to either renew the time-based license or obtain a permanent license.



Note

You cannot receive an evaluation license for Strong Encryption (3DES/AES); only permanent licenses support this entitlement.

Smart Software Manager Communication

This section describes how your device communicates with the Smart Software Manager.

Device Registration and Tokens

For each virtual account, you can create a registration token. This token is valid for 30 days by default. Enter this token ID plus entitlement levels when you deploy each chassis, or when you register an existing chassis. You can create a new token if an existing token is expired.

At startup after deployment, or after you manually configure these parameters on an existing chassis, the chassis registers with the Cisco License Authority. When the chassis registers with the token, the License Authority issues an ID certificate for communication between the chassis and the License Authority. This certificate is valid for 1 year, although it will be renewed every 6 months.

Periodic Communication with the License Authority

The device communicates with the License Authority every 30 days. If you make changes in the Smart Software Manager, you can refresh the authorization on the device so the change takes place immediately. Or you can wait for the device to communicate as scheduled.

You can optionally configure an HTTP proxy.

The Firepower 9300 chassis must have internet access either directly or through an HTTP proxy at least every 90 days. Normal license communication occurs every 30 days, but with the grace period, your device will operate for up to 90 days without calling home. After the grace period, you must contact the Licensing Authority, or you will not be able to make configuration changes to features requiring special licenses; operation is otherwise unaffected.

Out-of-Compliance State

The device can become out of compliance in the following situations:

- Over-utilization—When the device uses unavailable licenses.
- License expiration—When a time-based license expires.
- Lack of communication—When the device cannot reach the Licensing Authority for re-authorization.

To verify whether your account is in, or approaching, an Out-of-Compliance state, you must compare the entitlements currently in use by your Firepower 9300 chassis against those in your Smart Account.

In an out-of-compliance state, you will not be able to make configuration changes to features requiring special licenses, but operation is otherwise unaffected. For example, existing contexts over the Standard license limit can continue to run, and you can modify their configuration, but you will not be able to add a *new* context.

Smart Call Home Infrastructure

By default, a Smart Call Home profile exists in the FXOS configuration that specifies the URL for the Licensing Authority. You cannot remove this profile. Note that the only configurable option for the License profile is the destination address URL for the License Authority. Unless directed by Cisco TAC, you should not change the License Authority URL.

Prerequisites for Smart Software Licensing

- Note that this chapter only applies to ASA logical devices on the Firepower 9300 chassis. For more information on licensing for Firepower Threat Defense logical devices, see the Firepower Management Center Configuration Guide.
- Create a master account on the Cisco Smart Software Manager:
<https://software.cisco.com/#module/SmartLicensing>
If you do not yet have an account, click the link to [set up a new account](#). The Smart Software Manager lets you create a master account for your organization.
- Purchase 1 or more licenses from the [Cisco Commerce Workspace](#). On the home page, search for your platform in the **Find Products and Solutions** search field. Some licenses are free, but you still need to add them to your Smart Software Licensing account.
- Ensure internet access or HTTP proxy access from the chassis, so the chassis can contact the Licensing Authority.
- Configure a DNS server so the chassis can resolve the name of the Licensing Authority.
- Set the time for the chassis.
- Configure the Smart Software Licensing infrastructure on the Firepower 9300 chassis before you configure the ASA licensing entitlements.

Guidelines for Smart Software Licensing

ASA Guidelines for Failover and Clustering

Each Firepower 9300 chassis must be registered with the License Authority. There is no extra cost for secondary units.

Defaults for Smart Software Licensing

The Firepower 9300 chassis default configuration includes a Smart Call Home profile called “SLProf” that specifies the URL for the Licensing Authority.

```
scope monitoring
scope callhome
  scope profile SLProf
    scope destination SLDest
      set address https://tools.cisco.com/its/service/oddce/services/DDCEService
```

Configure Smart Software Licensing

To communicate with the Cisco License Authority, you can optionally configure an HTTP proxy. To register with the License Authority, you must enter the registration token ID on the Firepower 9300 chassis that you obtained from your Smart Software License account.

Procedure

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- Step 1** (Optional) Configure the HTTP Proxy, on page 5.
Step 2 Register the Firepower Security Appliance with the License Authority, on page 6.
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(Optional) Configure the HTTP Proxy

If your network uses an HTTP proxy for Internet access, you must configure the proxy address for Smart Software Licensing. This proxy is also used for Smart Call Home in general.



Note HTTP proxy with authentication is not supported.

Procedure

-
- Step 1** Enable the HTTP proxy:

```
scope monitoring
scope callhome
set http-proxy-server-enable on
```

Example:

```
scope monitoring
  scope call-home
    set http-proxy-server-enable on
```

- Step 2** Set the proxy URL:
- ```
set http-proxy-server-url url
```
- where *url* is the http or https address of the proxy server.

### Example:

```
set http-proxy-server-url https://10.1.1.1
```

- Step 3** Set the port:

```
set http-proxy-server-port port
```

**Example:**

```
set http-proxy-server-port 443
```

- Step 4** Commit the buffer:
- ```
commit-buffer
```

Register the Firepower Security Appliance with the License Authority

When you register the Firepower 9300 chassis, the License Authority issues an ID certificate for communication between the Firepower 9300 chassis and the License Authority. It also assigns the Firepower 9300 chassis to the appropriate virtual account. Normally, this procedure is a one-time instance. However, you might need to later re-register the Firepower 9300 chassis if the ID certificate expires because of a communication problem, for example.

Procedure

- Step 1** In the Smart Software Manager request and copy a registration token for the virtual account to which you want to add this Firepower 9300 chassis.

- Step 2** Enter the registration token on the Firepower 9300 chassis:

```
scope license
```

```
register idtoken id-token
```

Example:

```
scope license
  register idtoken ZGFmNWM5NjgtYmNjYS00ZWl3L
WE3NGItMWJkOGExZjIxNGQ0LTE0NjI2NDYx%0AMDIzNT
V8N3R0dXMlZ0NjWkdR214eFZhMldBOS9CVnNEYnVKM1
g3R3dvemRD%0AY29NQTO%3D%0A
```

- Step 3** To later unregister the device, enter:

```
scope license
```

```
deregister
```

Deregistering the Firepower 9300 chassis removes the device from your account. All license entitlements and certificates on the device are removed. You might want to deregister to free up a license for a new Firepower 9300 chassis. Alternatively, you can remove the device from the Smart Software Manager.

- Step 4** To renew the ID certificate and update the entitlements on all security modules, enter:

```
scope license
```

```
scope licdebug
```

```
renew
```

By default, the ID certificate is automatically renewed every 6 months, and the license entitlement is renewed every 30 days. You might want to manually renew the registration for either of these items if you have a limited window for Internet access, or if you make any licensing changes in the Smart Software Manager, for example.

Monitoring Smart Software Licensing

See the following commands for viewing license status:

- **show license all**

Displays the state of Smart Software Licensing, Smart Agent version, UDI information, Smart Agent state, global compliance status, the entitlements status, licensing certificate information and schedule Smart Agent tasks.

- **show license status**

- **show license techsupport**

History for Smart Software Licensing

Feature Name	Platform Releases	Description
Cisco Smart Software Licensing for the Firepower 9300 chassis	1.1(1)	<p>Smart Software Licensing lets you purchase and manage a pool of licenses. Smart licenses are not tied to a specific serial number. You can easily deploy or retire devices without having to manage each unit's license key. Smart Software Licensing also lets you see your license usage and needs at a glance. Smart Software Licensing configuration is split between the Firepower 9300 chassis supervisor and the security module.</p> <p>We introduced the following commands: deregister, register idtoken, renew, scope callhome, scope destination, scope licdebug, scope license, scope monitoring, scope profile, set address, set http-proxy-server-enable on, set http-proxy-server-url, set http-proxy-server-port, show license all, show license status, show license techsupport</p>

