



Licenses and Software Updates

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View and Manage Licenses

Licenses determine the features you can use and the type and number of devices that Cisco EPN Manager can manage. When you connect to Cisco EPN Manager (without logging in), the login page displays a banner that identifies the type of license the server is running (see [Types of Cisco EPN Manager Licenses, on page 1](#)). If Cisco EPN Manager is configured to use SSO (single sign-on), check the license type by viewing the banner contents.

Cisco EPN Manager supports Cisco Smart Licensing and traditional licensing. If you are currently using traditional licensing, Cisco recommends that you convert to Smart Licensing. For information on the differences between the two types of licensing, refer to the Cisco Smart Licensing Overview on [Cisco.com](https://www.cisco.com).

How to use Cisco Smart Licensing and traditional licensing is explained in the following topics.

- [Use Cisco Smart Licensing, on page 2](#)
- [Use Traditional Licensing, on page 9](#)

Types of Cisco EPN Manager Licenses

The following topics describe the feature- and time-based licenses supported by Cisco EPN Manager .

Base License

A base license enables all applications and all device drivers (without device count restrictions) on the server. It is displayed in the web GUI as **Base License**.

Device Right-to-Manage (RTM) License

Device RTM licenses allow the server to manage a specific number of devices of a specific device type. For RTM licenses, the device count is displayed next to the device type. These licenses come in two flavors:

- Extended RTM licenses for core, edge, aggregation, and access network devices. These licenses enable end-to-end network management: device lifecycle management, network provisioning, and network assurance.
- Foundation RTM licenses for service provider Wi-Fi networks that have Wi-Fi access points, WAN routers, core switches, and data center switches. Along with device lifecycle management, these licenses enable assurance visibility and troubleshooting capabilities.

Devices that are configured as satellites (for example, Cisco ASR 903 with a Cisco ASR 9000v host) are counted as independent devices.

Cisco EPN Manager will also discover third party network devices using its Open License "best effort" detection process. The collected information is displayed in the web GUI, but results can vary widely (depending entirely on the responses Cisco EPN Manager receives from the devices). You do not have to purchase any licenses to enable this mechanism.

RTM licenses are displayed in the GUI as follows:

- For Cisco devices—Device model, such as **NCS 2002** or **ASR 9001**.
- For third party devices—**Open License**.

SBY License for High Availability

The Standby (SBY) license allows the setup of high availability deployments. In a high availability deployment, all the device and feature licenses must be installed on the primary server. No licenses are required on the secondary server.

NBI License

The NBI license enables all MTOSI- and RESTConf-related APIs and administrative features on the server. If the NBI license is time-based, the remaining time is listed next to the license. This license is displayed in the GUI as **NBI**.

Time-Based, Lab, and Permanent Licenses

Most licenses can be purchased as a lab license or time-based license:

- Lab—For lab or staging environments.
- Time-Based (Evaluation)—For a 90-day trial period (the product is disabled when the trial period expires). If you purchase a time-based licenses, the days remaining are listed next to the license name.

These licenses can be converted to Permanent licenses.

Use Cisco Smart Licensing

Cisco recommends that you use the simple and efficient Cisco Smart Licensing mechanism to manage your licenses. A comparison of Smart and traditional licensing is provided in the Cisco Smart Licensing Overview on [Cisco.com](https://www.cisco.com). After enabling Smart Licensing in Cisco EPN Manager, you must register Cisco EPN Manager

with the Cisco Smart Software Manager (CSSM) on Cisco.com. After you are registered, all Cisco EPN Manager license types will be available to you from the Cisco EPN Manager web GUI

If you are currently using traditional licensing, you can convert your existing Cisco EPN Manager licenses to Smart entitlements at any time, as described in [Convert Traditional Licenses to Smart Entitlements](#), on page 6.

The following topics explain how to set up and manage Cisco EPN Manager licenses using Cisco Smart Licensing.

- [Set Up Cisco Smart Licensing in Cisco EPN Manager](#) , on page 3
- [Choose Cisco EPN Manager Licenses Using Smart Licensing](#), on page 6
- [Configure License Thresholds for the Smart License Dashboard](#), on page 7
- [Check Cisco EPN Manager License Usage](#), on page 7
- [Disable Smart Licensing](#), on page 8
- [Reference: Smart Product Registration and License Authorization Statuses](#), on page 8

Set Up Cisco Smart Licensing in Cisco EPN Manager

Follow these steps to set up Cisco Smart Licensing so you can use it to manage your licenses. If you are currently using traditional licensing, use these same procedures to use Cisco Smart Licensing and, when convenient, convert your existing Cisco EPN Manager licenses as described in [Convert Traditional Licenses to Smart Entitlements](#), on page 6.

	Step	See:
1.	Create a Smart Account with Cisco Systems.	Go to Smart Account Request and follow the instructions on the web site.
2.	Set up communication between Cisco EPN Manager and the CSSM on Cisco.com.	Set Up the Transport Mode Between Cisco EPN Manager and Cisco Smart Software Manager , on page 4
3.	Enable Smart Licensing in Cisco EPN Manager .	Enable Smart Licensing in Cisco EPN Manager , on page 4
4.	Register Cisco EPN Manager with the CSSM on Cisco.com by obtaining a token from the CSSM and entering it in the Cisco EPN Manager web GUI.	Register Cisco EPN Manager with the Cisco Smart Software Manager , on page 5
5.	Choose the licenses you want to use in Cisco EPN Manager .	Choose Cisco EPN Manager Licenses Using Smart Licensing , on page 6
6.	Set up the Smart License Dashboard so you can monitor your licensing usage.	Configure License Thresholds for the Smart License Dashboard , on page 7

Set Up the Transport Mode Between Cisco EPN Manager and Cisco Smart Software Manager

Before You Begin

If you plan to use an HTTP proxy, you must first configure the proxy server. See [Set Up the Cisco EPN Manager Proxy Server](#).

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- Step 1** Choose **Administration > Settings > System Settings**, then choose **General > Account Settings**.
- Step 2** Click the **Smart Licensing Transport** tab and select a communication mode:
- Direct mode—Send license information directly to the cloud. This is the default. You cannot edit this URL.
 - Transport Gateway—Use a Cisco Call Home transport gateway or a Cisco Smart Licensing Software satellite. (A satellite is installed on customer premises and provides a subset of CCSM functionality. Enter the appropriate URL. See [Cisco.com](#) for more details.)
 - HTTP Proxy—Use an HTTP/HTTPS proxy for communication between and the cloud.
- Step 3** Click **Save** to save the transport settings.
- Step 4** To revert to the default values, click **Reset** and **Save**.
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What to Do Next

If you have not already done so, enable Smart Licensing. See [Enable Smart Licensing in Cisco EPN Manager](#), on page 4.

Enable Smart Licensing in Cisco EPN Manager

Before You Begin

Make sure you have set up the transport mode. See [Set Up the Transport Mode Between Cisco EPN Manager and Cisco Smart Software Manager](#), on page 4.

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- Step 1** Choose **Administration > Licenses and Software Updates > Smart Software Licensing**.
- Step 2** Enable Cisco Smart Licensing in the Cisco EPN Manager web GUI.
- Click the **Licensing Settings** tab.
 - For the Licensing Mode, select **Smart Software Licensing**.
 - Choose **Evolved Programmable Network Manager** from the Product Name drop-down list.
 - Click **Enable Smart Software Licensing**. Cisco EPN Manager may display a dialog box informing you that when you complete this procedure, you must restart the web GUI before you can proceed with the configuration step.
 - Click **OK** in the dialog box.
 - If necessary, log out of the web GUI and log back in.
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What to Do Next

Do one of the following:

- If you have not yet registered Cisco EPN Manager with the CSSM on Cisco.com, Cisco EPN Manager will be in evaluation mode (which has a limit of 90 days). Register the product as described in [Register Cisco EPN Manager with the Cisco Smart Software Manager, on page 5](#).
- If you have registered Cisco EPN Manager with the CSSM, select the licenses you want to use. See [Choose Cisco EPN Manager Licenses Using Smart Licensing, on page 6](#).

Register Cisco EPN Manager with the Cisco Smart Software Manager

To register Cisco EPN Manager with the CSSM, you must obtain a token from the CSSM and enter it into the Cisco EPN Manager web GUI. This is a one-time requirement. If for any reason you have to re-register your product instance, you can do that by following this procedure. For information on how to use the CSSM, refer to the [Cisco Smart Software Manager User Guide](#).



Note Refer to the [Cisco Smart Software Manager User Guide](#) for information on other actions you can perform from the CSSM—for example, renewing license registration and license authorization, unregistering the product from Cisco Smart Licensing, and so forth.

Before You Begin

If your organization does not have a Smart Account, go to software.cisco.com, choose **Request a Smart Account** (under Administration), and follow the instructions to create an account.

Step 1 Go to the Cisco Software Central web site (software.cisco.com).

Step 2 Obtain your tokens. If you already have tokens (for example, you converted traditional licensing PAKs to Smart entitlements), proceed to the next step.
If you are re-registering your product instance, your token will be listed in the CSSM user interface. If your token is no longer valid, you can obtain a new token using this procedure.

- 1 On Cisco Software Central, choose **License > Smart Software Licensing**.
- 2 Select the appropriate virtual account.
- 3 Click the **General** tab, then click **New Token**.
- 4 Follow the instructions to provide a name, duration, and export compliance applicability before accepting the terms and responsibilities.
- 5 Click **Create Token**.
- 6 Copy the Token ID to your clipboard and proceed to the next step.

Step 3 Enter the Token ID into the Cisco EPN Manager web GUI to register the product instance.

- 1 Choose **Administration > Licenses and Software Updates > Smart Software Licensing**.

- 2 Click the **Licensing Settings** tab, then paste your token into the Registration Token field.
- 3 Click **Register**.

Step 4 Log out of the Cisco EPN Manager web GUI, then log back in.

What to Do Next

Choose the licenses you want to use. See [Choose Cisco EPN Manager Licenses Using Smart Licensing](#), on page 6.

Choose Cisco EPN Manager Licenses Using Smart Licensing

After you have registered Cisco EPN Manager with the CSSM, all Cisco EPN Manager license types will be listed in the Cisco EPN Manager web GUI, and you can choose the ones you want to use.

Step 1 **If this is the first time you are choosing Smart licenses:**

- a) Choose **Administration > Licenses and Software Updates > Licenses**.
After a few moments, Cisco EPN Manager displays a dialog box informing you that you cannot access the page because you are not using traditional licensing. This is normal.
- b) In the dialog box, click **Smart License Settings**.
- c) Click the **Licensing Settings** tab.

Step 2 **If you are already using Smart Licensing:**

- a) Choose **Administration > Licenses and Software Updates > Smart Software Licensing**.
- b) Click the **Licensing Settings** tab.

Step 3 Under Smart License Usage, click **Choose Licenses**.

Step 4 Select licenses from the Available Licenses dialog box, then click **Save**. Cisco EPN Manager immediately begins consuming the licenses.

What to Do Next

Configure the Smart License Dashboard thresholds for the new licenses. See [Configure License Thresholds for the Smart License Dashboard](#), on page 7.

Convert Traditional Licenses to Smart Entitlements

If you have been managing Cisco EPN Manager licenses using traditional licensing, you can enable and configure Smart Licensing by following the setup tasks in [Set Up Cisco Smart Licensing in Cisco EPN Manager](#), on page 3. When convenient, convert your existing traditional licenses to Smart entitlements described in this procedure. You will have to enter your PAK numbers in the License Registration Portal on Cisco Software Central site.

Before You Begin

- You must have a Cisco.com account to access Cisco Software Central. If you do not have an account, go to the [Cisco.com registration page](#).
- Make sure you have your existing traditional licensing Product Activation Key (PAK) numbers.

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- Step 1** On Cisco Software Central, choose **License > Traditional Licensing**.
- Step 2** Click **Continue to Product License Registration** to open the License Registration Portal.
- Step 3** In the field under **Get New Licenses**, enter your PAK numbers.
- Step 4** Under the **PAKs/Tokens** tab, select the PAKs you want to convert to Smart entitlements, then choose **Actions > Convert to Smart Entitlements**.
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Configure License Thresholds for the Smart License Dashboard

To efficiently manage your licenses, configure the Smart License Dashboard to indicate when Cisco EPN Manager is approaching the point where its licenses will be depleted. The settings you configure here system-wide .

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- Step 1** Choose **Administration > Licenses and Software Updates > Smart Software Licensing**, then click the **License Dashboard Settings** tab.
- Step 2** Make a selection from the License Type drop-down list.
- Step 3** Enter a value in the Threshold Value field.
- Step 4** Click **Save**.
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Check Cisco EPN Manager License Usage

Check current license usage using the Smart Licensing Dashboard. To open the dashboard, choose **Administration > Dashboards > Smart Licensing Dashboard**. For an explanation of the basic license types, see [Types of Cisco EPN Manager Licenses](#), on page 1.

To view these license counts:	Check this part of the dashboard:
For the current date	License Summary Count—Green indicates compliant license counts; red indicates non-compliant license counts.
For a specific week or month	License Summary—Hover over a bar chart to view more details.
For a specific license type	Device Distribution for License—Click one of the license links at the top of the License Summary dashlet. Hover your mouse cursor over the chart to view the details.

Disable Smart Licensing

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- Step 1** Change the license setting in the Cisco EPN Manager web GUI.
- Choose **Administration > Licenses and Software Updates > Smart Software Licensing**.
 - At the bottom of the page, click **Disable Smart Licensing**, then confirm your choice.
- Step 2** Log out of the Cisco EPN Manager web GUI, then log back in.
Because Cisco EPN Manager is not yet registered to use traditional licensing, when you log back in, all features are disabled. This is normal.
- Step 3** Enable traditional licensing in the Cisco EPN Manager web GUI. (This is done from the Smart License Settings page.)
- Choose **Administration > Licenses and Software Updates > Licenses**.
After a few moments, Cisco EPN Manager displays a dialog box informing you that you cannot access the page because you are not using traditional licenses. This is normal.
 - In the dialog box, click **Smart License Settings**.
 - Click the **License Settings** tab.
 - For the Licensing Mode, select **Traditional Licensing**.
 - Click **Register**.
- Step 4** Log out of Cisco EPN Manager, then log back in.
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Reference: Smart Product Registration and License Authorization Statuses

Product Registration Status

The License Registration Status reflects whether the product is properly registered with Cisco Smart Software Licensing on Cisco.com.

License Registration Status	Description
Unregistered	Smart Software Licensing is enabled on Cisco EPN Manager but Cisco EPN Manager is not registered with the CSSM.
Registered	Cisco EPN Manager is registered with the CSSM. Cisco EPN Manager has received an ID certificate that will be used for future communication with the Cisco licensing authority.
Registration Expired	Cisco EPN Manager did not successfully renew its registration prior to the expiration date and has been removed from CSSM.

License Authorization Status

The License Authorization status reflects license usage against purchased licenses, and whether you are in compliance with Cisco Smart Licensing. If you exceed the number of purchased license, the product will be Out of Compliance.

License Authorization Status	Description
Evaluation Mode	Cisco EPN Manager is running in evaluation mode (expires in 90 days).
Authorized	Cisco EPN Manager has a valid Smart Account and is registered. All licenses requested by the product are authorized for use.
Out of Compliance	Cisco EPN Manager has exceeded the number of licenses that were purchased. (Specifically, the virtual account for the product instance has a shortage of one or more licenses types.)
Evaluation Expired	The evaluation period has expired and Cisco EPN Manager is in the unlicensed state.
Authorization Expired	Cisco EPN Manager did not successfully renew its license authorization prior to the authorization expiration date.

Use Traditional Licensing



Note

Cisco recommends that you convert to Cisco Smart Licensing. See [Set Up Cisco Smart Licensing in Cisco EPN Manager](#), on page 3. If you are using Smart Licensing and want to re-enable traditional licensing, see [Disable Smart Licensing](#), on page 8.

Cisco EPN Manager checks traditional licenses every 4 hours and writes the status to the License log (/opt/CSCOlumos/logs/license.log). If a time-based license expires, any users that are in an active session will be redirected to the Licenses page, and new users are prevented from logging in. If an RTM license device count is exceeded, you should either:

- Delete some of the devices. After the daily inventory collection, the devices will be displayed as managed.
- Obtain a license with a higher RTM count. See [Add and Delete Traditional Licenses](#), on page 10.

See these topics for more information on traditional licenses:

- [Types of Cisco EPN Manager Licenses](#), on page 1
- [View Traditional Licenses](#), on page 10
- [Add and Delete Traditional Licenses](#), on page 10
- [Move a Traditional License to Another Server](#), on page 10

View Traditional Licenses

To view the installed Cisco EPN Manager traditional licenses, choose **Administration > Licenses and Software Updates > Licenses**. Cisco EPN Manager supports the licenses listed in [Base License, on page 1](#).

Add and Delete Traditional Licenses

To install a new traditional license, the original license must reside on the server. Do not create copies of licenses. To purchase new traditional licenses, point your browser to www.cisco.com/go/license. Make sure you install licenses in the correct order. For example, you must always install the Base license first because it is required by the other licenses.

When you delete a license, all of that license's information is removed from the server.

**Caution**

If you make a manual change to a license file, it will be considered corrupted and Cisco EPN Manager will not install it. If this happens, obtain a new license file.

Step 1 Choose **Administration > Licenses and Software Updates > Licenses**.

Step 2 Click **Files > License Files**.

- To add a license, click **Add**, browse to the location of the license file, and click **OK**.
 - To delete a license, select the license file, then click **Delete**.
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Move a Traditional License to Another Server

The only time you may have to move a license to another server is if you are using high availability, and a server fails. If you need to delete a license, see [Add and Delete Traditional Licenses, on page 10](#). To move the license:

Step 1 Delete the traditional licenses from the original server.

Step 2 Send an e-mail to licensing@cisco.com requesting a *re-host* for your traditional licenses.

Step 3 When you receive the traditional license, install it on the new server.

Renewing an Expired License

If your Cisco EPN Manager license has expired, you can complete the following procedure to renew it:

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- Step 1** Choose **Administration > Licenses and Software Updates > Licenses**.
The **Licenses** page opens.
- Step 2** Do one of the following:
- If you see the **Summary** and **Files** menus in the top left portion of the page, skip ahead to Step 4.
 - If you do not see these menus, you will first need to register traditional licensing. Proceed to Step 3.
- Step 3** Register traditional licensing, then return to Step 1 of this procedure:
- a) Choose **Administration > Licenses and Software Updates > Smart Software Licensing**.
 - b) With the **Licensing Settings** tab selected, click the **Traditional Licensing** radio button, then click **Register**.
 - c) Log out of Cisco EPN Manager, then log back in.
- Step 4** From the top left area of the page, choose **Files > License Files**.
The **License Files** page opens.
- Step 5** Choose the license file you want to renew:
- a) Click **Add**.
The **Add A License File** dialog box opens.
 - b) From the **Select License File** field, click **Choose File**.
 - c) Navigate to and click the appropriate license file, then click **Open**.
 - d) Click **OK**.
- Step 6** Log out of Cisco EPN Manager, then log back in.
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View the Licensing Dashboard

From the **Licensing** dashboard, you can determine whether traditional or smart software licensing is enabled (indicated in the **Active Licensing Mode** field at the top of the dashboard) and view the number of licenses that are currently in use. You can set the licensing mode from the **Smart Software Licensing** page (**Administration > Licenses and Software Updates > Smart Software Licensing**).

To open this dashboard, do one of the following:

- Choose **Administration > Dashboards > Licensing Dashboard**.
- Click the **Licensing Dashboard** link from the top-right corner of the **Smart Software Licensing** page.

The information displayed in the dashboard depends on the licensing mode that is enabled. If smart software licensing is currently enabled, the following dashlets are displayed:

- **License Summary Count** area—Displays the number of licenses consumed and the compliance status for each license type. The number of licenses displayed is based on the current date.

- **License Summary** dashlet—Displays a bar chart that graphs the number of licenses consumed for each license type during a particular time period. To view additional information, place your cursor over the chart.
- **Device Distribution for License** dashlet—To view the device distribution chart for a particular license, click its link from the top of the chart displayed in the **License Summary** dashlet. To view additional information, place your cursor over the chart.

**Note**

The information displayed in the **License Dashboard** is refreshed daily after the SmartLicense job runs at 02:00 A.M. (its pre-configured run time). To view this job in the **Job Dashboard**, choose **Administration > Dashboards > Job Dashboard**.

If traditional licensing is currently enabled, the **Licensing** dashboard displays the **Traditional Licensing** dashlet. Specify whether you want to view information about Lifecycle or Assurance licenses by choosing the corresponding option from the **License Type** drop-down list. The dashlet updates, displaying information such as the device families with that license type, the number of tokens allocated to each device in those families, as well as the number of tokens that are not being used at the moment.

Related Topics

- [Set Up Cisco Smart Licensing in Cisco EPN Manager](#), on page 3
- [Enable Smart Licensing in Cisco EPN Manager](#), on page 4
- [Register Cisco EPN Manager with the Cisco Smart Software Manager](#), on page 5
- [Configure License Thresholds for the Smart License Dashboard](#), on page 7
- [Disable Smart Licensing](#), on page 8
- [Reference: Smart Product Registration and License Authorization Statuses](#), on page 8

Manage Software Updates

- [What Are Software Updates?](#), on page 12
- [View the Installed Product Software Version](#), on page 13
- [Enable or Disable Notifications About Software Updates](#), on page 14
- [View Installed Software Updates](#), on page 13

What Are Software Updates?

Cisco provides updates to the Cisco EPN Manager software periodically. These updates fall into the following three categories:

- **Critical Fixes**—Provide critical fixes to the software. We strongly recommend that you download and apply all of these updates as soon as they are available.
- **Device Support**—Adds support for managing devices which Cisco EPN Manager did not support at release time.

- **Add-ons**—Provide new features, which can include GUI screens and functionality, to supplement the Cisco EPN Manager version you are using. This includes Cisco EPN Manager maintenance packs and maintenance pack point patches.

The update notifications that Cisco EPN Manager displays depends on the Notification Settings specified by your administration. See [Enable or Disable Notifications About Software Updates, on page 14](#). All software updates are packaged in .ubf files. A large update can contain individual smaller updates, from which you can choose what you want to install. When you install an update, Cisco EPN Manager does the following:

- Verifies that the file publisher is Cisco Systems and the file has not been tampered with
- Automatically installs any other updates that are required

If you have connectivity to Cisco.com, you can download install the updates directly from Cisco.com. If you do not have internet connectivity, copy the update from a server that has the necessary connectivity and install it from there.

See the [Cisco EPN Manager Installation Guide](#) for installation instructions for maintenance packs. For point patch installation instructions, see the readme file provided with the patch file on the Software Download page on Cisco.com.

View the Installed Product Software Version

Use one of these methods to check the Cisco EPN Manager product version.

- From the UI, choose **Help > About Cisco EPN Manager**.
- From the CLI, view the contents of the file named `#cat /opt/CSCOLumos/installedComponentsVersions.xml`

To use the CLI, see [Establish an SSH Session With the Cisco EPN Manager Server](#).

View Installed Software Updates

If you are not logged in to the web GUI, you can view a popup that lists the software updates by clicking View Installed Updates from the login page.

If you are logged in to the web GUI, you can view the software updates in two ways:

- From the About page, by clicking the settings icon at the top right of the page and clicking **About Cisco EPN Manager**, then clicking **View Installed Updates**. (The **View Installed Updates** link is also available from the login page.)
- By choosing **Administration > Licenses and Software Updates > Software Updates** (this method provides the most detail).

When you choose **Administration > Licenses and Software Updates > Software Updates**, Cisco EPN Manager displays two tabs:

- **Updates**—Updates that Cisco EPN Manager is currently using.
- **Files**—Update files that are installed on the server (including those that are not being used). The Corresponding Updates field lists any prerequisite updates that were also installed.

Enable or Disable Notifications About Software Updates

By default, Cisco EPN Manager will display information about all available updates in the Software Update page. Because the list can be quite long, you may want to adjust what is displayed and the updates for which you are notified. You can also disable all notifications and reenable them later.

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- Step 1** Configure the default Cisco.com credentials so that Cisco EPN Manager can get information about available updates.
- Choose **Administration > Settings > System Settings**, then choose **General > Account Settings**.
 - Click the **Cisco.com Credentials** tab, enter the credentials, then click **Save**.
- Step 2** Configure your software update notification settings.
- Choose **Administration > Settings > System Settings**, then choose **General > Software Update**.
 - Under **Notification Settings**, select or deselect the update categories. To disable all notifications, make sure no categories are selected. For an explanation of the categories, see [What Are Software Updates?](#), on page 12
 - Click **Save**.
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