



# Cisco Software Licensing Guide

*For Internal and External Audiences*

# Cisco Software Licensing

## Introduction

We offer our products through licensing and entitlements. This user guide will provide you with an overview of how to use Cisco® licensing.



## Licensing models, purchase options, and deployment methods

### About our licensing models

#### Licensing Models

**Subscription licenses:** Software with the right-to-use for the length of the subscription term. Subscription models generally provide faster access to our latest features and innovations and more predictable cost structures.

**Perpetual licenses:** Software with the right-to-use for an indefinite period of time. Perpetual licenses are typically locked to the device, and additional annual fees are required to maintain support and maintenance.

#### Purchasing Options

**Software Buying Programs:** Purchasing through one of the Cisco's Software Buying Programs provides you economies of scale and license management simplicity. Cisco's Software Buying Programs provide financial predictability, access to incentives, and subscription co-termination.

Learn more about [Buying Programs](#) for Enterprise Agreement (EA), Managed Service License Agreement (MSLA), and Service Provider Networking Agreement (SPNA).

**Transactional:** Both perpetual and subscription licenses can also be purchased as à la carte in accordance with Cisco's price list.

#### License Deployment and Management

**Smart Software Licensing:** Smart Software Licensing is a flexible licensing model that provides you with an easy, fast, and consistent way to purchase and manage software across the Cisco portfolio and your organization. It gives you visibility to what you have purchased and what you are using. It supports a complete view of your smart licensed software entitlements in a user-friendly portal.

**PAK Licensing:** Requires you to configure devices individually using a PAK (Product Activation Key) license key. This method does not easily provide you with visibility of licenses you own in aggregate because PAK license keys are either delivered as paper-based, with the device, or via email.

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## Licensing Terms and Conditions

All Cisco software is subject to the Cisco End User License Agreement (EULA). The EULA contains the general legal terms applicable to all Cisco software and Cloud Services. Some products have additional terms that apply. These specific terms are described in offer descriptions (for Cloud Services) or supplemental licensing terms (for on-premise software). [Learn More](#) about software and Cloud Services under our End

User License Agreement (EULA) and product-specific terms. Cisco may restrict the availability or features of Smart Accounts or Smart Licensing in any particular location or modify or discontinue features to comply with applicable laws and regulations. You may use Cisco Smart Licensing only in the country for which it is purchased and will be responsible for any taxes (if any) that may be applied to using features of Smart Accounts or Smart Licenses.



## Cisco Smart Licensing

### How Cisco Smart Licensing works

Smart Licensing is a flexible software licensing deployment and management model that simplifies the way you activate and manage licenses across your organization.

### Smart Licensing Benefits:

Smart Licensing simplifies the way you purchase, deploy, organize, and optimize Cisco software licenses.

**Easy activation:** Smart Licensing establishes a pool of software licenses that can be used across your company—no more entering Product Activation Keys.

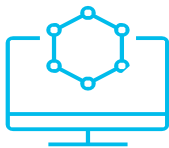
**Unified management:** Cisco provides a complete view into all of your Cisco licensing products under this program in an easy-to-use portal, so you always know what you have and what you are using.

**License flexibility:** Your software is not node-locked to your hardware, so you can easily use and move licenses as needed.

### Cisco Smart Licensing Using Policy (SLP)

Smart Licensing Using Policy (SLP) is an evolved version of Smart Licensing. Smart Licensing Using Policy simplifies day-zero operations and ongoing maintenance for you. Once you receive the product, it will directly boot up instead of going into evaluation mode. Per-product software registration is not required, nor is ongoing communication every 30 days through the cloud-hosted Smart Account on Cisco Smart Software Manager (CSSM).

Starting with Cisco IOS® XE17.3.2/17.4.1, IOS XR 24.1.1 and NX-OS 10.2(1), all Cisco products running these versions of the operating system software will support only the Smart Licensing Using Policy.



# Smart Accounts

The first step to using Smart Licensing is to set up a Smart Account. This account will serve as the centralized location to view users, register products, and manage your Smart Licenses.

Smart Account Management Resources:

[Introduction to Smart Accounts](#)

## Smart Account Benefits

**Real-time visibility.** Get a current view and immediate insights into your software licenses, entitlements, and users across the organization.

**Centralized management.** Enjoy a single location for all your Cisco software assets (including PAK licenses and Enterprise Agreements) and the ability to move licenses around your network.

**Telemetry.** Download reports on purchased, in-use, and available software to improve software utilization, efficiency, and budget planning.

**Better organization.** Have the flexibility to organize licenses by department, product, or other designation.

## Virtual Accounts

Virtual Accounts are customizable sub-accounts within your Smart Account used to organize and optimize Cisco licenses. You can categorize sub-accounts by department, network, or other definitions that you determine.

## Limited Use Smart Accounts

Small businesses may not need the full functionality of a Smart Account. We do offer a scaled-back Smart Account version called the Limited Use Smart Account. This account is made for Small-to-Medium-sized Businesses (SMBs) that do not have a company domain email ID and that use a public email domain. See the [Limited Use Smart Account quick reference guide](#) for more details.

## Smart Account and Virtual Accounts User Roles

Customer Smart Accounts and Virtual Accounts are managed by various roles that have specific activity privileges.

**Smart Account approvers** approve the licensing terms, can edit Smart Account properties, view all users, and view event logs. Approvers cannot manage licenses.

**Smart Account administrators** can edit Smart Account properties, add and edit users and Virtual Accounts, view event logs, and manage licenses for the entire Smart Account.

**Smart Account users** can access all Virtual Accounts and perform licensing activities but cannot create new Virtual Accounts or manage users.

**Virtual Account administrators** can add and edit users to assigned Virtual Accounts, view event logs for assigned Virtual Accounts, and manage licenses for the assigned Virtual Accounts.

**Virtual Account users** can manage licenses for Virtual Accounts they are assigned to, but they cannot add new users.

# Cisco Smart Software Manager (CSSM) Licensing deployment options

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Once you've created a Smart Account, you can begin to self-manage license deployments throughout your company using the cloud-based Cisco Smart Software Manager (CSSM) interface. You have several deployment options.

### Direct license management and reporting

This cloud-based deployment method is our simplest. If your Cisco products are connected to tools.cisco.com via the internet or HTTP proxy server, those devices will automatically report usage information. Direct deployment works out of the box with no additional configuration required.

### On-premises license management and reporting

This deployment method is best when security policies require devices to be isolated from the

internet. Device communication is contained within the local network. The on-premises server uses a synchronization process to exchange license information with the CSSM. Transfers can be automatic and network-based or offline and manual. This method simplifies larger Cisco deployments (of roughly 30 or more devices).

### Disconnected (license reservation) license usage and reporting

This is our highest level of security for organizations that need a full air-gapped environment (and on-premises licensing isn't an option). Access through license reservation is fully offline and requires no ongoing communication or additional infrastructure. All licenses are manually checked in and out by copying and pasting license authorization code information between products and Cisco.com. Disconnected licensing works well for remote deployments.

# Comparing Deployment Options

	Direct	On-premises	Offline
Summary	Manage all of your license usage with the Cisco Smart Software Manager (CSSM) at Cisco.com.	<p>Deploy the Cisco Smart Software Manager (CSSM) On-Prem license server using a free, machine-based download. This replicates the cloud-based user experience of our direct-connect method, but it keeps all communication on your premises.</p> <p>Once a month, the CSSM On-Prem server and CSSM synchronize databases via network-based transfer or offline manual transfer.</p> <p>Additionally, for SLP, deployment can be achieved through:</p> <ul style="list-style-type: none"> <li>• Cisco Smart License Utility (CSLU), a Windows-based reporting utility that provides aggregate licensing workflows</li> <li>• Cisco DNA Center™</li> </ul>	Deliver licenses to Cisco devices with manual reservation codes, similar to PAKs. Because it's offline, any changes to license usage must be processed manually.
Applications	This is our most widely used type of deployment. It requires connectivity between your Cisco devices and Cisco.com via the internet. Direct deployment works best for most organizations.	This method balances the simplicity of automated, cloud-based deployment with the security of local protected networks. Mediated deployment is ideal for financial institutions, service providers, utilities, and government organizations.	This deployment method is for high-security environments. It's equivalent to node locking, but with tracking ability for Smart Licensing.
Advantages	This is our simplest deployment model. It requires zero setup of any Cisco infrastructure components.	Mediated deployment works for all products and provides the same experience as direct cloud access, but with higher security.	This deployment method is the most secure. It requires no additional infrastructure or ongoing communication.
Disadvantages	Devices are connected over the internet, either directly or through HTTPS proxy servers, which may not comply with some highly regulated industries or businesses with strict data security requirements.	There are costs involved with installing and maintaining the software application virtual machine, as well as the cost of data exchanges when manual synchronization is used.	Disconnected deployment is limited to a subset of Cisco products. All license changes must be processed manually, including Return Material Authorizations (RMAs).

# Smart Software License usage compliance

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As Cisco Smart Licensed products are activated and configured, they call home to their Smart Account and report usage in various ways. This communication indicates the licenses that are needed and also displays the current availability details.

For Smart Licensing, one of the following responses is received by the device:

- “Authorized” means the license pool is sufficient to support the current usage across all devices in the pool.
- “Out of compliance” means the license pool is insufficient to support the current license usage across all devices in the pool. In most cases, the product will continue to function normally, but it will begin to issue notices. After 90 days, product functionality may be limited until the license shortage is resolved. Out-of-compliance or non-reported devices may receive a syslog with varying degrees of frequency. These are described in the product manuals.

For the new Smart Licensing Using Policy (SLP) mode, the following applies:

- Usage data is stored on the device when it is booted and updated for all usage systematically. This usage data is similarly sent to Cisco.

- After sending, the device will show a status field indicating that it has been reported. If connected, it will automatically receive an acknowledgment in the form of a Report ACK message, and the device will indicate that it has reported.
- Once the reported data is made available at Cisco, it will similarly update the license pool data.

Products stay in an “authorized” state as long as the number of entitlements in the pool is greater than or equal to the number of licenses being consumed. Products using the Smart Licensing Using Policy (SLP) will indicate only whether the device has reported or not reported its usage.

When the number of licenses in the pool is less than the number of licenses consumed (because additional licenses were consumed by new deployments or because the number of licenses decreased due to expiration of subscriptions or terms), the pool is moved to an “out of compliance” state for Smart Licensing. For Smart Licensing Using Policy, this is tracked only at the Cisco Smart Software Manager (CSSM) cloud level in the Smart Account or the CSSM On-Prem local license server.

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For Smart Licensing, all devices in the pool that are using the noncompliant license are notified. Enforcement actions are device specific but tend to be on the light end of the spectrum, including syslog messages and limited product updates or configurations.

Smart Account users and administrators are also notified when more licenses are being consumed than have been purchased. Cisco Smart Software Manager (CSSM) displays a “major” alarm on its primary alarms interface as well as within the Virtual Account itself. The alarm includes information on needed licenses and the quantity needed to resolve the shortage. This information is also available in the offline license report via the Report tab within CSSM. Additionally, users and administrators can elect to receive a daily status email.

# Convert PAK Licenses to Smart Software Licenses

Convert your traditional licenses to Cisco Smart Licensing

- Cisco Smart Account administrators or Cisco Smart Account users can convert PAK licenses to Smart Licensing (where available) themselves with Cisco Smart Software Manager (CSSM). It’s also possible to set up automatic device-led conversion for any new devices that are added to a Smart Account.
- The best practice is to assign traditional/classic licenses to Smart Accounts at the time of purchase via commerce tools such as Cisco Commerce Workspace.
- Learn more about converting licenses with these resources:
  - [Convert a Fulfilled Product Activation Key \(PAK\) to a Smart License in Smart License Manager \(SSM\)](#)
  - [Convert a Partially Fulfilled Product Activation Key \(PAK\) to a Smart License within Smart License Manager \(SSM\)](#)
  - [Convert an Unfulfilled Product Activation Key \(PAK\) to a Smart License in Smart License Manager \(SSM\)](#)
  - [Convert My Unfulfilled Product Activation Key \(PAK\) to a Smart Licenses in License Registration Portal \(LRP\)](#)
  - [Convert Partially Converted Product Activation Key \(PAK\) to Smart Licenses in License Registration Portal \(LRP\)](#)
  - [Convert Partially Converted Product Activation Key \(PAK\) to Smart Licenses in Smart License Manager \(SSM\)](#)



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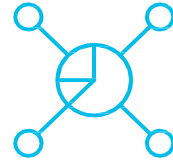
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# Manage your entitlements

My Cisco Entitlements (MCE) uses your Smart Account to provide a consolidated view of all your assets and entitlements, including services, subscriptions, licenses, and devices. Learn more about MCE below.

## My Cisco Entitlements Benefits

- Real-time insights: See one simple view of products and services, including activation and utilization metrics.
- Cost optimization: Better plan and control the usage of your products and services.
- Enhanced business continuity: Help ensure compliance by proactively identifying at-risk products and services.
- Secure and consolidated user access: Streamline and strengthen the way you manage Cisco licenses.

## My Cisco Entitlements gives you greater control of your licensing

- Search assets and entitlements with global search or by services and subscriptions, licenses, or devices.
- Filter assets and entitlements based on available fields.
- Sort your data in ascending or descending values.
- Organize your assets and entitlements further by creating Virtual Accounts.
- Export reports on assets and entitlements into multiple formats. Export up to 100,000 lines of data. That number is expected to increase in future releases.
- Manage columns to customize the view of your assets and entitlements.
- Launch the support case manager directly to open a technical support case.
- Upgrade assets and entitlements simply via software version upgrade requests.

# Resources for Cisco Partners

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Smart Licensing makes it easier for your customers to manage their Cisco licenses and right-size their spend. Cisco partners may leverage Partner Holding Accounts as a unique type of Smart Account that helps them plan and manage Cisco licenses before they're deployed to customers.

What is a Partner Holding Account?

A Partner Holding Account is a way for Cisco partners to temporarily store orders before they're deposited into customers' Smart Accounts.

Partners don't always know the end customer or their Smart Account when ordering. In this case, orders can be temporarily assigned to a Partner Holding Account. Once a customer is identified, orders can be transferred to their Smart Account. The main difference between Smart Accounts and Partner Holding Accounts is that licenses can be consumed only in Smart Accounts, not in Partner Holding Accounts. Assigning a Partner Holding Account on an order provides companywide access to the order.

- [Request a Partner Holding Account](#)
- [Request a Smart Account for a Customer](#)

## Resources

Training Resources

[Cisco Licensing 101 Training](#)

Support

[Licensing Hub](#)

[Support Case Manager \(SCM\)](#)

Licensing website

[Licensing Hub](#)

Licensing tools

[Cisco Software Central](#)

[Smart Account and Smart Licensing APIs](#)