



Cisco IOS Software Installation, Cisco IOS Release 12.2(53)SE2 and Later

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Use this document with the Catalyst 3750-X and 3560-X switches.

See Cisco IOS software activation information at http://www.cisco.com/en/US/products/ps9677/products_ios_technology_home.html.

See the switch releases notes for information about upgrading the switch software.



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Software Images and Licenses

Table 1 Catalyst 3750-X and 3650-X Software Images

Image	Filename	Description
IP base without payload encryption	c3750e-ipbasek9npe c3560e-ipbasek9npe	Layer 2 and basic Layer 3 features, SSH ¹ , SSL ² , and SNMPv3 ³ , and Kerberos LAN base image with Layer 2 features
IP base with payload encryption	c3750e-ipbasek9 c3560e-ipbasek9	Layer 2 and basic Layer 3 features, SSH, SSL, SNMPv3, Kerberos, and MACsec ⁴ LAN base image with Layer 2 features
Universal without payload encryption	c3750e-universalk9npe c3560e-universalk9npe	All the supported universal image features, Kerberos, SSH, SSL, and SNMPv3 LAN base, IP base, and IP services software licenses
Universal with payload encryption	c3750e-universalk9 c3560e-universalk9	All the supported universal image features, Kerberos, SSH, SSL, SNMPv3, and MACsec LAN base, IP base, and IP services software licenses

1. SSH = Secure Shell
2. SSL = Secure Socket Layer
3. SNMPv3 = Simple Network Management Protocol Version 3
4. MACsec = MAC security standard

Management and data traffic can be encrypted on switches running payload-encryption images. Only management traffic, such as a SSH management session, can be encrypted on switches running nonpayload-encryption images.

- Management traffic is encrypted when SSH, SSL, SNMP, and other cryptographic-capable applications or protocols are enabled.
- Data traffic is encrypted when MACsec is enabled.

If you have a service support contract and order a software license or if you order a switch, you receive the universal software image and a specific software license.

If you do not have a service support contract, such as a SMARTnet contract, download the IP base image from Cisco.com. This image has the IP base and LAN base feature sets.

The switches running the universal software images can use permanent and temporary software licenses. See the “Cisco IOS Software Activation Conceptual Overview” chapter in the *Cisco IOS Software Activation Configuration Guide*:

http://www.cisco.com/en/US/docs/ios/csa/configuration/guide/12.4T/csa_book.html.

Installing Software Images and Licenses

To install a software image, see the switch release notes and the “Working with the Cisco IOS File System, Configuration Files, and Software Images” chapter in the software configuration guide.

To install a software license, see the “Cisco IOS Software Activation Tasks and Commands” chapter in the *Cisco IOS Software Activation Configuration Guide*:

http://www.cisco.com/en/US/docs/ios/csa/configuration/guide/12.4T/csa_book.html.

Upgrading your License Using Right-To-Use Features

Beginning with Cisco IOS Release 15.0(2)SE1, the switches support right-to-use licensing. The right-to-use licensing model is an easier method to upgrade or downgrade from one license level to another without having to interact with the Cisco Product License Registration portal.

If you want to upgrade or downgrade from one license level to another, or remove the license from one switch and install on another, we recommend that you use the right-to-use (RTU) license instead of the node-locked license.

- [Overview of RTU License, page 3](#)
- [Benefits of an RTU License, page 3](#)
- [Guidelines for the RTU License Model, page 4](#)
- [Applying an RTU License on a Switch, page 4](#)
- [Activating the RTU License on a Switch, page 5](#)
- [Deactivating the RTU License on a Switch, page 5](#)

Overview of RTU License

Right-to-use (RTU) is a new licensing system that allows you to install or remove a license on your switch without interacting with the Cisco Product License Registration portal. Previously, when you upgraded from one license level to another (for example, from IP Base to IP Services), you visited <http://www.cisco.com/go/license>, obtained the desired license using your device’s PAK, and then applied the license on your device. For details of the Cisco IOS activation process, see the *Configuring the Cisco IOS Software Activation Feature* guide at this URL:
http://www.cisco.com/en/US/docs/ios/csa/configuration/guide/csa_commands.html

With the new RTU license, you can instantly install a license on any supported switch by using CLI commands without obtaining a license through the Cisco Product License Registration Portal. You can do the following tasks using the RTU license:

- Upgrade from a lower license to a higher license.
- Downgrade from a higher license to a lower license.
- Move licenses from one switch to another by deactivating the license on the first switch and activating on the second.

Benefits of an RTU License

RTU licenses provide the following key benefits:

- They are not associated with specific switches. With the node-locked license model, a license is applicable to a particular switch UID. Therefore, to activate a license on a new switch, you had to obtain a new license for the new switch's UID. RTU licenses are not specific to switch UIDs and can be freely transferred from one switch to another.
- They can be instantly activated on any supported switch. With the node-locked license model, you open the Cisco Product License Registration Portal to obtain a license for a new switch that you purchase or an RMA switch that you need to replace. This process is often cumbersome and lengthy, and applying the license on the new switch is an error-prone activity. With RTU licenses, you can apply a license on a switch and activate it immediately.
- They can be applied without requiring an Internet connection. With the node-locked license model, you need to access an Internet connection to obtain a license for your device's UID. This may be difficult in some deployment scenarios where an Internet connection is not available. With RTU licenses, you can apply a supported license on any switch at any time without requiring an Internet connection to interact with the Cisco Product License Registration Portal.

Guidelines for the RTU License Model

- The RTU license model is based on mutual trust between you and Cisco. When you apply an RTU license, it is implied that you have first purchased the license from Cisco. This agreement is explained in detail in the EULA, which is displayed when you activate the license.
- The RTU license model does not replace the node-locked license model. Instead, it provides an easier method of upgrading or moving your switch's license. You can still use the node-locked license model if you choose to.
- In a switch stack, you can use multiple switches that have both licensing models. For example, you can configure a switch stack to use IP Services node-locked license on some switches and IP Services RTU license on other switches.
- RTU licenses are permanent licenses. Evaluation licenses are not supported in the RTU licensing model.

Applying an RTU License on a Switch

To apply an RTU license on a switch, follow these steps:

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- Step 1** Upgrade from one license level to another by using the Cisco sales ordering tool to purchase the license. You will receive an e-mail or paper confirmation that grants you permission to activate the license on your switch.
 - Step 2** Apply the license by entering the appropriate commands on your switch. If you are upgrading a license on a switch, enter the activation command to activate the higher license. If you are moving a license from one switch to another, enter the deactivation command on the first switch and the activation command on the second switch.
 - Step 3** Read and accept the End User License Agreement (EULA).
 - Step 4** Reboot the switch to boot with the highest available license.
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Activating the RTU License on a Switch

To activate the RTU license on a switch, follow these steps beginning in privileged EXEC mode:

	Command	Purpose
Step 1	license right-to-use activate <i>license-level</i>	Activates a license on a switch.
Step 2	license right-to-use activate <i>license-level</i> acceptEULA	(Optional) Activates a license on a master or member switch and accepts the EULA automatically. This step may be required in situations where deployments are automated using install scripts.
Step 3	license right-to-use activate <i>license-level</i> switch <i>switch-num</i>	(Optional) Activates a license for a member switch on a switch stack.
Step 4	reload	Reboots the switch to boot with the highest available license.

Deactivating the RTU License on a Switch

To deactivate the RTU license on a switch follow these steps beginning in privileged EXEC mode:

	Command	Purpose
Step 1	license right-to-use deactivate <i>license-level</i>	Deactivates a license on a switch.
Step 2	license right-to-use deactivate <i>license-level</i> switch <i>switch-num</i>	(Optional) Deactivates a particular license for a member switch on a switch stack.
Step 3	reload	Reboots the switch to boot with the highest available license.

Related Documentation

http://www.cisco.com/en/US/products/ps10745/tsd_products_support_series_home.html

http://www.cisco.com/en/US/products/ps10744/tsd_products_support_series_home.html

- *Release Notes for the Catalyst 3750-X and 3560-X Switches*
- *Catalyst 3750-X and 3560-X Switch Getting Started Guide*
- *Catalyst 3750-X and 3560-X Switch Hardware Installation Guide*
- *Catalyst 3750-X and 3560-X Power Supply Module Installation Notes*
- *Catalyst 3750-X and 3560-X Fan Module Installation Notes*
- *Catalyst 3750-X and 3560-X Uplink Module Installation Notes*
- *Regulatory Compliance and Safety Information for the Catalyst 3750-X and 3560-X Switches*
- *Catalyst 3750-X and 3560-X Switch Software Configuration Guide*
- *Catalyst 3750-X and 3560-X Switch Command Reference*
- *Catalyst 3750-X, 3750-E, 3560-X and 3560-E Switch System Message Guide*

Obtaining Documentation, Obtaining Support, and Security Guidelines

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS version 2.0.

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