AVC Licensing and Feature Activation

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This chapter addresses Cisco AVC feature licensing and includes the following topic(s):

AVC Licensed Features

Cisco AVC software components are provided as part of each Cisco IOS and Cisco IOS XE release. No additional software packages are required for AVC functionality.

Activating full AVC functionality may require additional feature licensing and activation. License and activation details vary according to the platform. For information about supported platforms, see AVC Supported Platforms, page A-1. For platform-specific details about activating features, see AVC Feature Activation, page 3-3.

Licensing AVC

A very limited subset of AVC capabilities (recognizing approximately 150 applications based on port numbers) is available without a software license and is included in IP Base with the router. For full AVC capabilities, the Application Experience, or AppX, license is the recommended way to procure AVC functionality. Application Experience licenses provide a cost-effective combination of AVC, WAN Optimization, and Medianet capabilities.

Combined hardware-software offerings simplify the procurement of ISR G2, ISR 4451-X, ASR 1001, and ASR 1002-X routers with the Application Experience licenses. Software licenses may be used to add Application Experience capabilities to previously purchased routers.

Table 3-1 and Table 3-2 describe recommended OS images and feature licenses for a variety of platforms. For detailed, up-to-date information about images and licenses for a particular platform, refer to the documentation associated with the platform.

Application Experience Licensing

For complete details about Application Experience licensing, see:

Application Experience

Table 3-1   Recommended OS Image and License—IOS Platforms

Platform	OS Image	Recommended AVC License[1]
Cisco ISR G2 (880 series)	Universal - Data For information, see: http://www.cisco.com/c/en/us/products/collateral/routers/887-integrated-services-router-isr/data_sheet_c78_459542.html	Application Experience (AppX) For information about purchasing and installing the AppX license, see: *Cisco Software Activation on Integrated Services Routers*
Cisco ISR G2 (890 series)	Universal For information, see: http://www.cisco.com/c/en/us/products/collateral/routers/800-series-routers/data_sheet_c78-519930.html	Application Experience (AppX) For information about purchasing and installing the AppX license, see: *Cisco Software Activation on Integrated Services Routers*
Cisco ISR G2 (1900, 2900, 3900 series)	Universal	Application Experience (AppX) For information about purchasing and installing the AppX license, see: *Cisco Software Activation on Integrated Services Routers*

1. For the ISR G2 family, the Data license also enables the Right to Use the AVC feature set.

Table 3-2   Recommended OS Image and License—IOS XE Platforms

Platform	OS Image	Recommended AVC License
Cisco ASR 1001-5G and 1002X	AIS[1] or AES[2]	Application Experience (AppX)
Cisco ASR 1000 routers not described above	AIS, AES, or Universal (depending on router model)	AVC Feature License
Cisco CSR1000v	Premium	Premium OS image includes Right to Use AVC
Cisco ISR 4451-X	Universal	Application Experience (AppX) For information about purchasing and installing the AppX license, see: *Cisco Software Activation on Integrated Services Routers*

1. AIS = Advanced IP Services

2. AES = Advanced Enterprise Services

AVC Feature Activation

The following sections describe the Cisco IOS/IOS XE image and license to use for full AVC feature activation, and the activation process for different platforms:

AVC Feature Activation: Cisco ISR G2 Series

Image and License Required

OS Image and License	Temporary License Activation Supported
See Table 3-1 Cisco IOS 15.4(1)T or later	Yes

Temporary Activation/Deactivation of the Application Experience License

Cisco ISR G2 platforms support temporary 90-day activation of Application Experience (AppX) features, for evaluation, before obtaining a full license, using the `license boot module` CLI command. Activating AppX features provides full AVC functionality.

Activation

To temporarily activate AppX features, load the AppX package and reboot the router. Execute the following from the console:

Step 1   **configure terminal**

Step 2   **license boot module** *module-name* **technology-package datak9**

Step 3   **end**

Step 4   **reboot**

To display the *module-name* for your router, use the following command:

module ?

To display the software packages and features supported by your router, enter the following command:

technology-package ?

For additional information about activating an evaluation license, see *Software Activation on Cisco Integrated Services Routers and Cisco Integrated Service Routers G2*:
http://www.cisco.com/c/en/us/td/docs/routers/access/sw_activation/SA_on_ISR.html#wp1155619

Deactivation

To deactivate the AppX features, unload the AppX package and reboot the router. Execute the following from the console:

Step 1   **configure terminal**

Step 2   **no license boot module** *module-name* **technology-package datak9**

Step 3   **end**

Step 4   **reboot**

AVC Feature Activation: Cisco ASR 1000 Series Routers

Image and License Required

OS Image and License	Temporary License Activation Supported
See Table 3-2	Yes

Licenses

For information about purchasing and installing the AES or AIS license for Cisco ASR 1000 series routers, see:

- *Software Activation Configuration Guide, Cisco IOS XE Release 3S*
- *Cisco ASR 1000 Series Aggregation Services Routers Ordering Guide*

Temporary Activation/Deactivation of the AES or AIS License

Cisco ASR 1001 and Cisco ASR 1002-X routers support temporary 90-day activation of AES or AIS features, for evaluation, before obtaining a full license, using the `license boot level` CLI command. Activating either of these feature sets provides full AVC functionality.

> **Note**   Cisco ASR 1000 series models other than Cisco ASR 1001 and Cisco ASR 1002-X do not support temporary license activation.

Activation

To temporarily activate AES or AIS features, load the AES or AIS image and reboot the router. Execute the following from the console (using `adventerprise` for the AES image or `advipservices` for the AIS image):

```
conf t
    license boot level [adventerprise | advipservices]
end
reboot
```

Deactivation

To deactivate the AES/AIS license features, load the IPbase image and reboot the router. Execute the following from the console:

```
conf t
    license boot level ipbase
end
reboot
```

AVC Feature Activation: Cisco ISR 4400 Series

Image and License Required

OS Image and License	Temporary License Activation Supported
See Table 3-2	Yes

Temporary Activation/Deactivation of the Application Experience License

The Cisco ISR 4400 supports temporary 90-day activation of Application Experience (AppX) features, for evaluation, before obtaining a full license, using the `license boot level` CLI command. Activating AppX features provides full AVC functionality.

Activation

To temporarily activate AppX features, load the AppX package and reboot the router. Execute the following from the console:

```
conf t
    license boot level datak9
end
reboot
```

Deactivation

To deactivate the AppX features, unload the AppX package and reboot the router. Execute the following from the console:

```
conf t
    no license boot level datak9
end
reboot
```

AVC Feature Activation: Cisco CSR 1000V

Image and License Required

OS Image and License	Temporary License Activation Supported
See Table 3-2	Yes

License

For information about purchasing and installing the Application Experience (AppX) license, see Cisco IOS and IOS XE Licenses, page 3-6.

Temporary Activation/Deactivation of the Premium License

Cisco CSR 1000V Cloud Services Routers support temporary 90-day activation of Premium license features, for evaluation, before obtaining a full license, using the `license boot level` CLI command. Activating Premium features provides full AVC functionality.

Activation

To temporarily activate Premium features, execute the following from the console:

```
conf t
     license boot level premium
end
reboot
```

Deactivation

To deactivate the Premium features, reboot the router and execute one of the following from the console:

Option 1:

```
conf t
     license boot level standard
end
reboot
```

Option 2:

```
conf t
     license boot level advanced
end
reboot
```

For information about images and licenses for the Cisco CSR 1000V, see:
Cisco CSR 1000V Series Cloud Services Router Release Notes

Cisco IOS Images and Licensing

Cisco IOS and IOS XE Licenses

For information about Application Experience (AppX) licensing, see:

- *Application Experience*

  http://www.cisco.com/c/en/us/solutions/enterprise-networks/application-experience/index.html

- *Cisco Software Activation on Integrated Services Routers*

  http://www.cisco.com/c/en/us/products/cloud-systems-management/software-activation-on-integrated-services-routers-isr/index.html

Universal Image and Software Activation License

The feature activation section for each platform indicates whether it supports use of a universal IOS XE software image. The universal software image includes all IOS XE functionality. You can purchase new software capabilities at any time for a deployed router. With the purchase, you receive a Product Activation Key (PAK). To activate the purchased functionality, you enter the PAK into the Software Activation License (SAL), which is preinstalled on the device.

The software activation licensing system simplifies IOS XE software deployment. The IOS XE software image remains unchanged, regardless of which functionality has been activated, and only one archive image must be maintained per device.