

H3C Switch Series Licensing User Guide

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Overview

License-based features require licenses to run on your device.

License types

Licenses include trial licenses and formal licenses. Trial licenses typically have time limits. After a trial license expires, the license-based feature is not available unless you purchase and install a formal license for the feature.

Licenses for different device types

Licenses for fixed port devices

You must purchase a license key for each IRF member device. To license an IRF member device, use the license key and the member's SN and DID to register an activation file and install the activation file on the IRF member device. An IRF member device is licensed even if the device joins another IRF fabric.

Licenses for modular devices

The license requirement is different for devices in different modes.

- In standalone mode: You must purchase a license key for the entire device. To license the device, use the license key and the device's SN and DID to register an activation file and install the activation file on the device.
- In IRF mode: You must purchase a license key for each IRF member device. To license an IRF member device, use the license key and the member's SN and DID to register an activation file and install the activation file on the IRF member device. An IRF member device is licensed even if the device joins another IRF fabric.

Restrictions and guidelines: License management

Management operation

Make sure no one else is performing license management tasks on the device you are working with.

Activation file and DID file operations

When you manage DID files or activation files, follow these restrictions and guidelines:

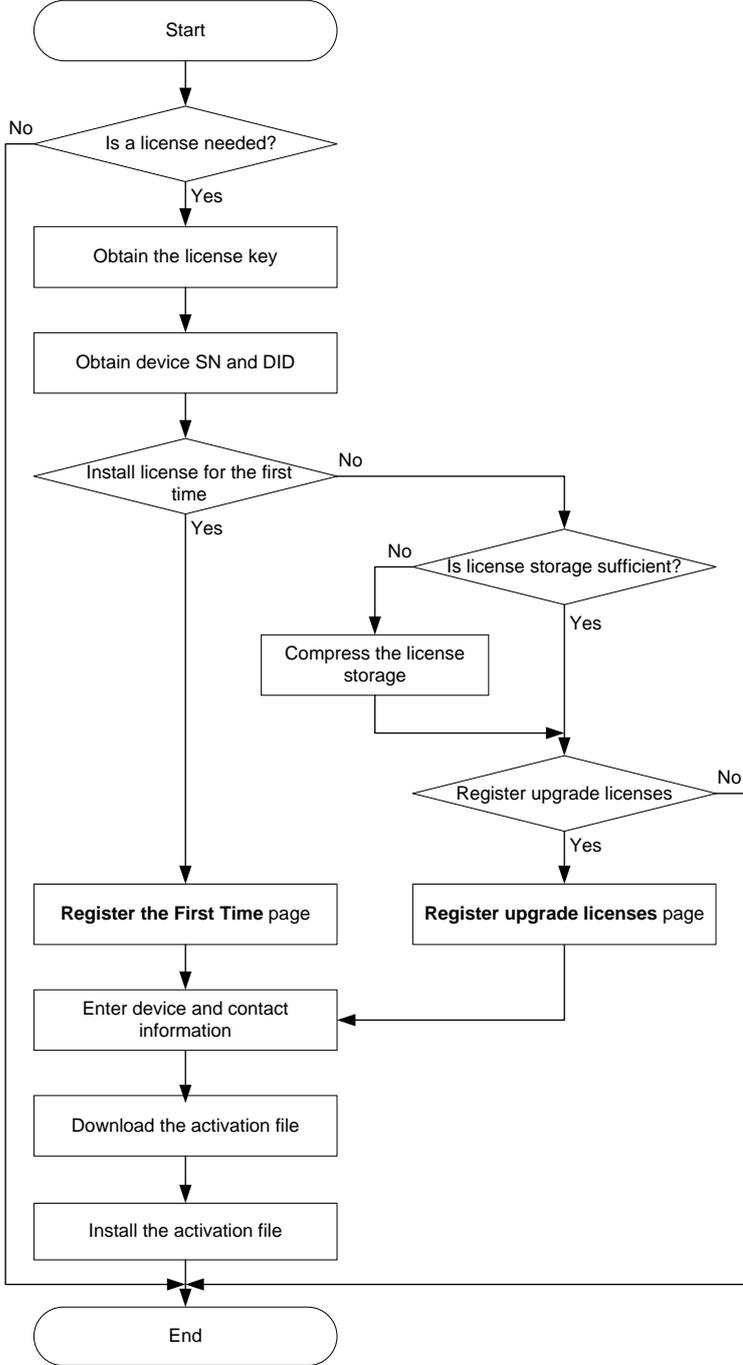
- Do not open and edit the files to avoid file corruption.
- Do not modify the names of the files to avoid licensing error.
- For licensed features to function correctly, do not delete files that are usable or in use in the **flash:/license** directory. The license management feature uses this directory for license management.

License consistency in an IRF fabric

For licensed features to function correctly in an IRF fabric, make sure all IRF member devices are installed with the same licenses.

License registration and installation flowchart

Figure 1 License registration and installation flowchart



Preparing for license registration

Identifying features to be licensed

To identify features to be licensed, execute the `display license feature` command in any view to view license information about features on the device.

The following uses a fixed port device as an example.

```
<Sysname> display license feature
```

```
Slot 1:
```

```
Total: 64 Usage: 1
```

Feature	Licensed	State
EVB	N	-
FCoE	N	-
APMGR	N	-
SPBM	N	-
TRILL	N	-
evi	N	-

The command output lists features that require licenses, and the **Licensed** and **State** fields show the license information for these features.

In this example, the **N** in the **Licensed** field indicates that no license is installed for that feature. The hyphen (-) in the **State** field indicates that the feature is not licensed on the device.

Install licenses for the features that you need to run on the device.

Identifying the license storage

To identify the license storage, execute the `display license feature` command in any view.

The following uses a fixed port device as an example.

```
<Sysname> display license feature
```

```
Slot 1:
```

```
Total: 64 Usage: 1
```

Feature	Licensed	State
EVB	N	-
FCoE	N	-
APMGE	N	-
SPBM	N	-
TRILL	N	-
evi	N	-

Examine the **Total** and **Usage** fields to determine whether the remaining license storage is sufficient for new licenses. If it is not sufficient, compress the license storage.

In this example, a total of 64 licenses can be installed, 1 license is stored in the license storage, and another 63 licenses can be installed.

Compressing the license storage

About license storage compression

Compress the license storage to delete expired or uninstalled license information to ensure sufficient storage space for installing new licenses.

Restrictions and guidelines

As a best practice, do not perform the compression operation if the license storage is sufficient.

If a license is uninstalled or expires on the device, the compression operation will make the DID change. You will be unable to install the activation files that are generated based on the old DID after the compression.

Procedure

1. Execute the **display license** command to obtain the Uninstall keys of uninstalled licenses and back it up. An Uninstall key is generated when you uninstall an unexpired formal license.

If no licenses are uninstalled, skip this step.

The following uses a fixed port device as an example.

```
<Sysname> display license
Slot 1:
flash:/license/210235A3J3H17B0000222018113017325316818.ak
Feature: VXLAN evi SPBM EVB FCoE TRILL
Product Description: H3C S6800 Data Center License
Registered at: 2018-11-30 19:27:45
License Type: Permanent
Current State: Uninstalled
Uninstall Key: b8Km-dDXz-5VKh-MaYP-rFs$-4hSe-2XcF-Ae#+
Uninstall Date: 2018-12-30 23:59:24
```

2. Make sure all licenses generated based on the old DID have been installed.
3. Execute the **system-view** command to enter system view.

```
<Sysname> system-view
System View: return to User View with Ctrl+Z.
```

4. Execute the **license compress** command to compress the license storage.

On a fixed port device:

```
[Sysname] license compress slot 1
This command will delete all data relevant to uninstalled and expired keys/licenses,
including Uninstall keys, and create a new device ID for activation keys/files. Make
sure you have saved the Uninstall keys so you can apply for a new activation key file
for the unexpired licenses that were covered by the uninstalled activation keys/files.
Are you sure you want to continue? [Y/N]: y
```

This operation might take some time. Do not perform any other operations until the operation is completed or a failure message is displayed. Please wait...

On a modular device:

- o In standalone mode:

```
[Sysname] license compress
This command will delete all data relevant to uninstalled and expired keys/licenses,
including Uninstall keys, and create a new device ID for activation keys/files.
Make sure you have saved the Uninstall keys so you can apply for a new activation
```

key file for the unexpired licenses that were covered by the uninstalled activation keys/files.

Are you sure you want to continue? [Y/N]: **y**

This operation might take some time. Do not perform any other operations until the operation is completed or a failure message is displayed. Please wait...Done.

- o In IRF mode:

```
[Sysname] license compress chassis 1
```

This command will delete all data relevant to uninstalled and expired keys/licenses, including Uninstall keys, and create a new device ID for activation keys/files. Make sure you have saved the Uninstall keys so you can apply for a new activation key file for the unexpired licenses that were covered by the uninstalled activation keys/files.

Are you sure you want to continue? [Y/N]: **y**

This operation might take some time. Do not perform any other operations until the operation is completed or a failure message is displayed. Please wait...

Obtaining required information for license registration

1. Execute the **display license** command to display the current license status.

If you register a license for the first time, skip this step.

The following uses a fixed port device as an example.

```
<Sysname> display license
```

```
Slot 1:
```

```
flash:/license/210235A045B05B00043502016030409542161216.ak
```

```
Feature: VXLAN evi SPBM EVB FCoE TRILL
```

```
Product Description: H3C S6800 Data Center License
```

```
Registered at: 2019-01-01 14:57:40
```

```
License Type: Trial (days restricted)
```

```
Trial Time Left (days): 0
```

```
Current State: Expired
```

The **Current State** of the data center license is **Expired**. If you want to use the listed features, purchase a new license.

2. Obtain the license key by purchasing a license.

The authorization serial number in the *Software License Certificate* is the license key.

3. Execute the **display license device-id** command in any view to obtain the SN and DID information. The DID can be contained in a .did file or can be a string. The following uses a fixed port device and a modular device as an example.

On a fixed port device:

```
<Sysname> display license device-id slot 1
```

```
SN: 210235A3J3H17B000022
```

```
Device ID: flash:/license/210235A3J3H17B000022.did
```

On a modular device:

- o In standalone mode:

```
<Sysname> display license device-id
```

```
SN: 210235A1EUX155000030
```

```
Device ID: LBXA-cMRV-t/Bk-69up-GMrg-@@AY-RYpT-8XK2
```

- o In IRF mode:

```
<Sysname> display license device-id chassis 1
SN: 210235A1ELX155000005
Device ID: F@LU-aDST-iXbz-Rf:B-PXs7-@Tb3-PbwQ-aJVd
```

4. If the DID is contained in a .did file, use FTP or TFTP to upload the file to the PC.
If FTP is used to transfer the .did file, use the Binary mode.
If the DID is a string, skip this step.

Selecting a license registration procedure

License registration has the following procedures:

- **Registering licenses for the first time**—Register a license for a device that has not previously been registered.
- **Registering upgrade licenses**—Register licenses for capacity expansion, feature enhancement, or a time extension. This procedure is also applicable to the scenario that you register a new license after the original license expires on the device.

If you need to install multiple licenses, select **Register the First Time** for the first license and select **Register Upgrade Licenses** for other licenses. For example, if you want to register licenses for the data center and access controller features, select **Register the First Time** for data center feature and select **Register Upgrade Licenses** for the access controller feature.

If you do not know which registration procedure should be used, select registering licenses for the first time. Enter the required information, and the website will display messages for the correct registration choice.

Registering licenses for the first time

Registering a license at the website

1. Visit the H3C website at <http://www.h3c.com/en/License/>.
2. Select **Register the First Time**.

Figure 2 Registering a license for the first time

Register the First Time

Registers licenses for a device that has never been activated.

To register a device license that has not previously been activated, please select a product category. To register add-ons, add-on features, or a time extension, please select Register Upgraded License in the menu on the left.

Select product category.

Product category

Input the license key

if you are unsure of the product category, enter the license key and click Submit.

3. Enter the authorization serial number in the **Input the license key** field and click **Submit**. A dialog box opens, displaying product categories matching the license key.
4. In the dialog box, select a product category from the **Product category** dropdown list and click **OK**.

Figure 3 Selecting a product category

Register the First Time

Registers licenses for a device that has never been activated.

To register a device license that has not previously been activated, please select a product category. To register add-ons, add-on features, or a time extension, please select Register Upgraded License in the menu on the left.

Select product category.

Product category

Input the license key

if you are unsure of the product category, enter the license key and click Submit.

选择产品分类

产品分类:

提示: 输入的授权码对应的产品item包含扩展配置, 需用户选择产品分类

- Enter the device S/N and upload the DID file, as shown in [Figure 4](#).
If the DID is a string, copy the string to the **Device ID** field at the website, as shown in [Figure 5](#).

Figure 4 Entering the device S/N and uploading the DID file

Device information

H3C device S/N *

Device information file 浏览... *

Figure 5 Entering the DID

Device information

H3C device S/N *

Device ID *

- Enter the required contact information and verify code, select **I accept all terms of H3C Legal Statement**, and click **Get activation key or file**.

Figure 6 Entering the contact information and verify code

Contact Information

Customer company/organization *

Company/Organization *

First name *

Last name

Phone number *

Email address *

Zip code

Address

Project name

Verify code

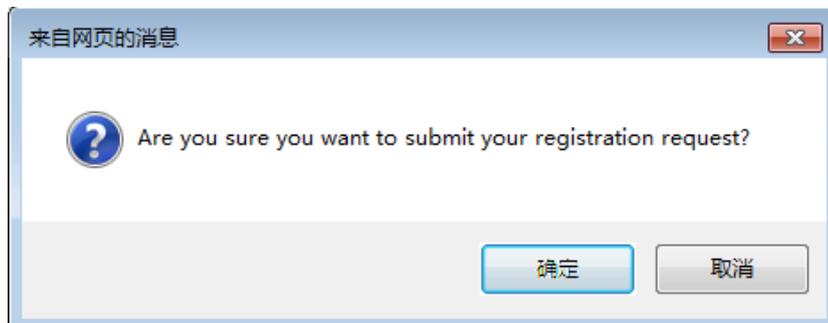
I accept all terms of H3C Legal Statement *

For comments or questions, please contact us.

提示 : * Required field

- On the confirmation dialog box that opens, click **OK**.

Figure 7 Confirming the operation



8. On the page that displays the registration success information and returns an activation file, download the activation file to the PC.

A copy of the activation file will also be sent to the email address that you enter in the contact information.

NOTE:

If you cannot download the activation file due to problems such as operating system and browser errors, try to re-register the license. If the problem persists, contact H3C Support.

Installing a license on the device

The following installs a license for the data center feature as an example.

1. Use FTP or TFTP to download the activation file from your PC to the device.

If FTP is used to transfer the .did file, use the Binary mode.

2. Execute the **system-view** command to enter system view.

```
<Sysname> system-view
```

```
System View: return to User View with Ctrl+Z.
```

3. Execute the **license activation-file install** command to install an activation file.

On a fixed port device:

```
[Sysname] license activation-file install flash:/210235A3J3H17B0000222019053117325316616.ak slot 1
```

This operation might take some time. Do not perform any other operations until the operation is completed or a failure message is displayed. Please wait...

On a modular device:

- o In standalone mode:

```
[Sysname] license activation-file install flash:/210235A3J3H17B0000222019053117325316616.ak
```

This operation might take some time. Do not perform any other operations until the operation is completed or a failure message is displayed. Please wait...

- o IRF mode:

```
[Sysname] license activation-file install flash:/210235A3J3H17B0000222019053117325316616.ak chassis 1
```

This operation might take some time. Do not perform any other operations until the operation is completed or a failure message is displayed. Please wait...

4. Execute the **display license** command to display detailed license information.

The following uses a fixed port device as an example.

```
[Sysname] display license
```

```
Slot 1:
```

```
flash:/license/210235A3J3H17B0000222019053117325316616.ak
```

```
Feature: VXLAN evi SPBM EVB FCoE TRILL
```

```
Product Description: H3C S6800 Data Center License
```

```
Registered at: 2019-01-30 19:27:45
```

```
License Type: Permanent
```

```
Current State: In use
```

From the command output, the data center license for VXLAN, EVI, SPBM, EVB, FCoE, and TRILL features is in use and is permanently valid.

5. Execute the **display license feature** command to display license status.

The following uses a fixed port device as an example.

```
[Sysname] display license feature
```

```
Slot 1:
```

```
Total: 64 Usage: 1
```

Feature	Licensed	State
EVB	Y	Formal
FCoE	Y	Formal
APMGE	N	-
SPBM	Y	Formal
TRILL	Y	Formal
evi	Y	Formal

The command output shows that the VXLAN, EVI, SPBM, EVB, FCoE, and TRILL features are licensed and the license is formal and valid.

Registering upgrade licenses

Registering a license at the website

1. Visit the H3C website at <http://www.h3c.com/en/License/>.
2. Select **Register Upgrade Licenses**.

Figure 8 Registering upgrade licenses

Register Upgrade Licenses

Registration of add-ons, add-on features, or time extensions.

To register add-ons, add-on features, or time extensions, please select a product category. To register a device that has not previously been activated, please select First-Time Registration in the menu on the left.

Select product category.

Product category

Input the license key

if you are unsure of the product category, enter the license key and click Submit.

3. Enter the authorization serial number in the **Input the license key** field and click **Submit**. A dialog box opens, displaying product categories matching the license key.
4. In the dialog box, select a product category from the **Product category** dropdown list and click **OK**.

Figure 9 Selecting a product category

Register Upgrade Licenses

Registration of add-ons, add-on features, or time extensions.

To register add-ons, add-on features, or time extensions, please select a product category. To register a device that has not previously been activated, please select First-Time Registration in the menu on the left.

Select product category.

Product category

Input the license key

if you are unsure of the product category, enter the license key and click Submit.

选择产品分类

产品分类:

提示: 输入的授权码对应的产品Item包含扩展配置, 需用户选择产品分类

- Enter the device S/N, upload the DID file, and click **Submit**.
If the DID is a string, directly copy the string to the **Device ID** field at the website, as shown in [Figure 11](#).

Figure 10 Entering the device S/N and uploading the DID file

Device information

H3C device S/N *

Device information file 浏览... *

Please click the submit button first

Figure 11 Entering the DID

Device information

H3C device S/N *

Device ID *

- Enter the required contact information and verify code, select **I accept all terms of H3C Legal Statement**, and click **Get activation key or file**.

Figure 12 Entering the contact information and verify code

Contact Information

Customer company/organization *

Company/Organization *

First name *

Last name

Phone number *

Email address *

Zip code

Address

Project name

Verify code

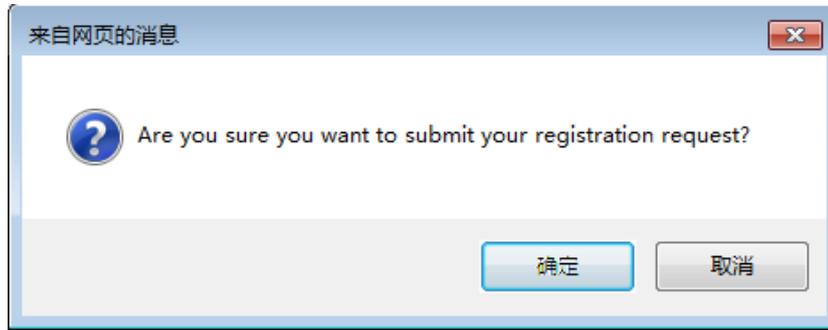
I accept all terms of H3C Legal Statement *

For comments or questions, please [contact us](#).

提示：* Required field

- On the confirmation dialog box that opens, click **OK**.

Figure 13 Confirming the operation



8. On the page that displays the registration success information and returns an activation file, download the activation file to the PC.
A copy of the activation file will also be sent to the email address that you enter in the contact information.

NOTE:

If you cannot download the activation file due to problems such as operating system and browser errors, try to re-register the license. If the problem persists, contact H3C Support.

Installing a license on the device

The following installs a license for the access controller feature.

1. Use FTP or TFTP to download the activation file from your PC to the device.
If FTP is used to transfer the .did file, use the Binary mode.
2. Execute the **system-view** command to enter system view.

```
<Sysname> system-view
```


System View: return to User View with Ctrl+Z.
3. Execute the **license activation-file install** command to install an activation file.

On a fixed port device:

```
[Sysname] license activation-file install flash:/210235A3J3H17B0000222019053117325316616.ak slot 1
```

This operation might take some time. Do not perform any other operations until the operation is completed or a failure message is displayed. Please wait...

On a modular device:

- o In standalone mode:

```
[Sysname] license activation-file install flash:/210235A3J3H17B0000222019053117325316616.ak
```

This operation might take some time. Do not perform any other operations until the operation is completed or a failure message is displayed. Please wait...

- o IRF mode:

```
[Sysname] license activation-file install flash:/210235A3J3H17B0000222019053117325316616.ak chassis 1
```

This operation might take some time. Do not perform any other operations until the operation is completed or a failure message is displayed. Please wait...

4. Execute the `display license` command to display detailed license information.

The following uses a fixed port device as an example.

```
[Sysname] display license
Slot 1:
flash:/license/210235A3J3H17B0000222019053117325316616.ak
Feature: APMGR
Product Description: Enhanced Access Controller License
Registered at: 2019-01-30 19:27:45
License Type: Permanent
Current State: In use
```

From the command output, the enhanced access controller license for the APMGR feature is in use and is permanently valid.

5. Execute the `display license feature` command to display license status.

The following uses a fixed port device as an example.

```
[Sysname] display license feature
Slot 1:
Total: 64 Usage: 1
Feature                               Licensed      State
EVB                                    Y             Formal
FCoE                                    Y             Formal
APMGR                                  Y             Formal
SPBM                                    Y             Formal
TRILL                                   Y             Formal
evi                                     Y             Formal
```

The command output shows that the APMGR feature is licensed and the license is formal and valid.

Recovering an activation file

If you mistakenly delete an activation file on a device, use the following procedure to recover the activation file:

1. Obtain the activation file that is previously saved on the PC, backed up on the device, or sent to the email address.

If you still cannot find the activation file from the above locations, contact H3C Support.

2. Use FTP or TFTP to download the activation file to the device.

If FTP is used to transfer the .did file, use the Binary mode.

3. Use the **copy** command to copy the backup activation file to directory flash:/license.

The following uses a fixed port device as an example.

```
<Sysname> copy 210235A3J3H17B0000222019053117325316616.ak flash:/license/210235A3
J3H17B0000222019053117325316616.ak
Copy flash:/210235A3J3H17B0000222019053117325316616.ak to flash:/license/210235A3
J3H17B0000222019053117325316616.ak? [Y/N]:y
Copying file flash:/210235A3J3H17B0000222019053117325316616.ak to flash:/license/2
10235A3J3H17B0000222019053117325316616.ak..... Done.
```

4. Use the **display license** command to verify that the license state of the recovered activation file is **In use**.

```
[Sysname] display license
Slot 1:
flash:/license/210235A3J3H17B0000222019053117325316616.ak
Feature: VXLAN evi SPBM EVB FCoE TRILL
Product Description: H3C S6800 Data Center License
Registered at: 2019-01-30 19:27:45
License Type: Permanent
Current State: In use
```

The command output shows that the license is in use.

5. Restart the device if the license state is **In use** but the licensed features cannot function correctly.
6. If you still cannot use the license-based features, contact H3C Support.