

# Brocade Vyatta Network OS License and Entitlement Management Software Licensing Guide, 5.2R1

Supporting Brocade 5600 vRouter, VNF Platform, and Distributed  
Services Platform

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# Contents

---

<b>Preface.....</b>	<b>5</b>
Document conventions.....	5
Notes, cautions, and warnings.....	5
Text formatting conventions.....	5
Command syntax conventions.....	6
Brocade resources.....	6
Document feedback.....	6
Contacting Brocade Technical Support.....	7
Brocade customers.....	7
Brocade OEM customers.....	7
<b>About This Guide.....</b>	<b>9</b>
<b>Licensing.....</b>	<b>11</b>
Licensing overview.....	11
Obtaining a license.....	11
<b>License Management Tasks.....</b>	<b>13</b>
License management overview.....	13
Adding an evaluation license.....	13
Deleting an evaluation license .....	14
Configuring the license expiration-warning period.....	14
Viewing license information.....	15
<b>Evaluation License Commands.....</b>	<b>17</b>
add trial online.....	17
delete trial online.....	19
license expiration-warning period.....	20
show license installed.....	21
<b>Syslog Messages.....</b>	<b>23</b>



# Preface

---

- Document conventions..... 5
- Brocade resources..... 6
- Document feedback..... 6
- Contacting Brocade Technical Support..... 7

## Document conventions

The document conventions describe text formatting conventions, command syntax conventions, and important notice formats used in Brocade technical documentation.

## Notes, cautions, and warnings

Notes, cautions, and warning statements may be used in this document. They are listed in the order of increasing severity of potential hazards.

### NOTE

A Note provides a tip, guidance, or advice, emphasizes important information, or provides a reference to related information.

### ATTENTION

An Attention statement indicates a stronger note, for example, to alert you when traffic might be interrupted or the device might reboot.



### CAUTION

A Caution statement alerts you to situations that can be potentially hazardous to you or cause damage to hardware, firmware, software, or data.



### DANGER

A Danger statement indicates conditions or situations that can be potentially lethal or extremely hazardous to you. Safety labels are also attached directly to products to warn of these conditions or situations.

## Text formatting conventions

Text formatting conventions such as boldface, italic, or Courier font may be used to highlight specific words or phrases.

Format	Description
<b>bold text</b>	Identifies command names. Identifies keywords and operands. Identifies the names of GUI elements.
<i>italic text</i>	Identifies text to enter in the GUI. Identifies emphasis. Identifies variables.
Courier font	Identifies document titles. Identifies CLI output. Identifies command syntax examples.

## Command syntax conventions

Bold and italic text identify command syntax components. Delimiters and operators define groupings of parameters and their logical relationships.

Convention	Description
<b>bold text</b>	Identifies command names, keywords, and command options.
<i>italic text</i>	Identifies a variable.
value	In Fibre Channel products, a fixed value provided as input to a command option is printed in plain text, for example, <b>--show</b> WWN.
[ ]	Syntax components displayed within square brackets are optional. Default responses to system prompts are enclosed in square brackets.
{ x   y   z }	A choice of required parameters is enclosed in curly brackets separated by vertical bars. You must select one of the options. In Fibre Channel products, square brackets may be used instead for this purpose.
x   y	A vertical bar separates mutually exclusive elements.
< >	Nonprinting characters, for example, passwords, are enclosed in angle brackets.
...	Repeat the previous element, for example, <i>member[member...]</i> .
\	Indicates a "soft" line break in command examples. If a backslash separates two lines of a command input, enter the entire command at the prompt without the backslash.

## Brocade resources

Visit the Brocade website to locate related documentation for your product and additional Brocade resources.

White papers, data sheets, and the most recent versions of Brocade software and hardware manuals are available at [www.brocade.com](http://www.brocade.com).

Product documentation for all supported releases is available to registered users at [MyBrocade](http://MyBrocade).

Click the **Support** tab and select **Document Library** to access documentation on [MyBrocade](http://MyBrocade) or [www.brocade.com](http://www.brocade.com). You can locate documentation by product or by operating system.

Release notes are bundled with software downloads on [MyBrocade](http://MyBrocade). Links to software downloads are available on the MyBrocade landing page and in the Document Library.

## Document feedback

Quality is our first concern at Brocade, and we have made every effort to ensure the accuracy and completeness of this document. However, if you find an error or an omission, or you think that a topic needs further development, we want to hear from you. You can provide feedback in two ways:

- Through the online feedback form in the HTML documents posted on [www.brocade.com](http://www.brocade.com)
- By sending your feedback to [documentation@brocade.com](mailto:documentation@brocade.com)

Provide the publication title, part number, and as much detail as possible, including the topic heading and page number if applicable, as well as your suggestions for improvement.

## Contacting Brocade Technical Support

As a Brocade customer, you can contact Brocade Technical Support 24x7 online, by telephone, or by e-mail. Brocade OEM customers should contact their OEM/solution provider.

### Brocade customers

For product support information and the latest information on contacting the Technical Assistance Center, go to [www.brocade.com](http://www.brocade.com) and select **Support**.

If you have purchased Brocade product support directly from Brocade, use one of the following methods to contact the Brocade Technical Assistance Center 24x7.

Online	Telephone	E-mail
<p>Preferred method of contact for non-urgent issues:</p> <ul style="list-style-type: none"> <li>Case management through the <a href="#">MyBrocade</a> portal.</li> <li>Quick Access links to Knowledge Base, Community, Document Library, Software Downloads and Licensing tools</li> </ul>	<p>Required for Sev 1-Critical and Sev 2-High issues:</p> <ul style="list-style-type: none"> <li>Continental US: 1-800-752-8061</li> <li>Europe, Middle East, Africa, and Asia Pacific: +800-AT FIBREE (+800 28 34 27 33)</li> <li><a href="#">Toll-free numbers</a> are available in many countries.</li> <li>For areas unable to access a toll-free number: +1-408-333-6061</li> </ul>	<p><a href="mailto:support@brocade.com">support@brocade.com</a></p> <p>Please include:</p> <ul style="list-style-type: none"> <li>Problem summary</li> <li>Serial number</li> <li>Installation details</li> <li>Environment description</li> </ul>

### Brocade OEM customers

If you have purchased Brocade product support from a Brocade OEM/solution provider, contact your OEM/solution provider for all of your product support needs.

- OEM/solution providers are trained and certified by Brocade to support Brocade® products.
- Brocade provides backline support for issues that cannot be resolved by the OEM/solution provider.
- Brocade Supplemental Support augments your existing OEM support contract, providing direct access to Brocade expertise. For more information, contact Brocade or your OEM.
- For questions regarding service levels and response times, contact your OEM/solution provider.





# About This Guide

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This guide describes license and entitlement management for Brocade products that run on the Brocade Vyatta Network OS (referred to as a virtual router, vRouter, or router in the guide).



# Licensing

- [Licensing overview](#)..... 11
- [Obtaining a license](#)..... 11

## Licensing overview

An evaluation license is available for the Brocade 5600 vRouter.

The evaluation license is a nonproduction license that enables the maximum performance of the Brocade vRouter for a trial period of 60 days from the day of download.

The following table describes license terminology for the Brocade vRouter.

**TABLE 1** License terminology

Term	Description
Activation code	Key used to activate a license. The key format is xxxx-xxxx-xxxx-xxxx, where x is an alphabetic or a numeric character. The terms activation code and license key are used interchangeably.
Warning period	Period of time before the expiry date, during which the Brocade vRouter issues warning messages about an upcoming license expiry date. For more information about warning messages, refer to <a href="#">Syslog Messages</a> on page 23.
License expiry date	Date on which licensed features cease to function.

## Obtaining a license

To order and obtain a 60-day evaluation license, click **FREE TRIAL** at <http://www.brocade.com/en/products-services/software-networking/network-functions-virtualization/5600-vrouter.html>.

### NOTE

For important installation information depending on your deployment, see the *Brocade Vyatta Network OS vRouter Deployment Options Configuration Guide* document. For instructions on verifying the connectivity needed to install your license, see the "Verifying connectivity" section in the installation guide for your environment.

To install a license on your Brocade vRouter, complete the following steps.

1. **NOTE**

You should receive an entitlement e-mail from Brocade within one hour after placing your order. Sometimes entitlement e-mails are routed to junk or spam e-mail folders. If you do not receive your entitlement e-mail within one hour, check your junk and spam e-mail folders to determine if it was routed there.

Download the Brocade vRouter software and read your entitlement e-mail.

After installing the Brocade vRouter software and before adding an evaluation license, the Brocade vRouter displays a license warning message on bootup.

```
Welcome to vRouter
Version:      4.0.0.R1
Description:  Brocade vRouter 5600 4.0.0 R1
Copyright:   2015 Brocade Communications Systems, Inc.
Last login:  Wed Oct 21 17:22:59 2015 from 10.72.16.14
```

```
WARNING:      A valid vRouter 5600 license was not detected on this device.
              The license may not be configured or may be expired.
              vRouter 5600 features have been disabled.
```

```
Please install a valid license within 24 hours of vRouter creation.
```

2. Refer to the **Order Details** section of your entitlement e-mail for details about the activation code for your evaluation license.

3. **NOTE**

For the automatic generation of a license key, the Brocade vRouter must be online and have public connectivity to communicate with the Brocade licensing portal.

**NOTE**

You must enter your activation code to retrieve your license key after you install the Brocade vRouter software. The activation code can be used at any time during your evaluation period. However, the trial software runs for only 24 hours after download without the activation code being entered into the system.

Install and enter your activation code. For detailed information on how to add a license to your Brocade vRouter and verify that it is installed correctly, refer to [Adding an evaluation license](#) on page 13.

Your 60-day evaluation license includes free support. If you have questions or need help with your evaluation license for the Brocade vRouter, contact [support@brocade.com](mailto:support@brocade.com).

# License Management Tasks

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• License management overview.....	13
• Adding an evaluation license.....	13
• Deleting an evaluation license .....	14
• Configuring the license expiration-warning period.....	14
• Viewing license information.....	15

## License management overview

A Brocade vRouter evaluation license is managed through an internet connection to a licensing portal and by using the command line interface (CLI) on the vRouter.

### NOTE

A license must be added within the 24-hour period after installing the Brocade vRouter. When the license is not added within the 24-hour period, the Brocade vRouter ceases to function. The Brocade vRouter must be re-installed and the license added within the 24-hour period after re-installing the Brocade vRouter. You can add your original evaluation license to the Brocade vRouter after re-installation; you do not need to obtain a new evaluation license.

## Adding an evaluation license

For details about your Brocade vRouter license key (activation code), refer to the entitlement certificate e-mail that you receive after your Brocade vRouter license order is confirmed.

For a Brocade vRouter that is connected to the internet, it is assumed that the following tasks have been completed:

- Routes for internet access are set up. For further information, refer to *Brocade Vyatta Network OS Basic Routing Configuration Guide*.
- DNS is set up. For further information, refer to *Brocade Vyatta Network OS Basic System Configuration Guide* and *Brocade Vyatta Network OS Services Configuration Guide*.
- Interfaces are set up. For further information, refer to *Brocade Vyatta Network OS LAN Interfaces Configuration Guide*.
- The system host name is configured. For further information, refer to *Brocade Vyatta Network OS Basic System Configuration Guide*.

To add an evaluation license to a Brocade vRouter that is connected to the licensing portal, perform the following steps.

1. Log on to the Brocade vRouter in operational mode.
2. Add a license to the Brocade vRouter by specifying the license key.

The following example shows how to add an evaluation license with a license key of ABCD-EFGH-IJKL-1234.

```
vyatta@vyatta:~$ add trial online ABCD-EFGH-IJKL-1234  
  
License request successful.  
[ ok ] Restarting vyatta-routing (via systemctl): vyatta-routing.service.
```

3. Enter the **show license installed** command to confirm that the license is added to the system. The following example shows that an evaluation license with a license key of ABCD-EFGH-IJKL-1234 is installed on the system.

```
vyatta@vyatta:~$ show license installed

Device ID:      331cb-f91ec-b2440-7fdc0-03461-4a282-089b1-d7884
Auto-Update:    1 days
Expiration Warning: 30 days

License: 60 DAY EVALUATION LICENSE SW
Activation ID:  ABCD-EFGH-IJKL-1234
Feature:       Evaluation
Issuer:        MANUFACTURER 001
Start Date:    20-Oct-2015
Expiration:    21-Dec-2015
```

## Deleting an evaluation license

To delete an evaluation license from the Brocade vRouter that is connected to the licensing portal, perform the following steps.

1. Log on to the Brocade vRouter in operational mode.
2. Delete the license from the system by specifying the license key. The following example shows how to delete an evaluation license with a license key of ABCD-EFGH-IJKL-1234 from the Brocade vRouter.

```
vyatta@vyatta:~$ delete trial online ABCD-EFGH-IJKL-1234
```

3. Enter the **show license installed** command to confirm that the license is deleted from the system.

## Configuring the license expiration-warning period

By default, license-expiration warning messages are displayed during the 30-day period before the license-expiration date on the Brocade vRouter. To change the license expiration-warning period, perform the following steps.

1. Log on to the Brocade vRouter in configuration mode.
2. Enter the **set license expiration-warning period** command to configure the license expiration-warning period. The following example shows how to set the warning period to 40 days.

```
vyatta@vyatta# set license expiration-warning period 40
```

3. Commit the change.

```
vyatta@vyatta# commit
```

The license expiration-warning period is now set to 40 days on the Brocade vRouter.

4. Confirm the license expiration-warning period by issuing the **show license expiration-warning period** command.

```
vyatta@vyatta# show license expiration-warning period

license {
  expiration-warning {
    period 40
  }
}
```

## Viewing license information

Use the **show license installed** command to view installed-license information on the Brocade vRouter.

1. Log on to the Brocade vRouter in operational mode.
2. Enter the **show license installed** command to view information about licenses that are installed on the system.

The following example shows how to view that a valid evaluation license is installed on the system.

```
vyatta@vyatta:~$ show license installed

Device ID:      331cb-f91ec-b2440-7fdc0-03461-4a282-089b1-d7884
Auto-Update:    1 days
Expiration Warning: 30 days

License: 60 DAY EVALUATION LICENSE SW
Activation ID:  A047-B811-858F-DC58
Feature:        Evaluation
Issuer:         MANUFACTURER 001
Start Date:     20-Oct-2015
Expiration:     21-Dec-2015
```

For examples of information that is displayed by the **show license installed** command at different stages of the license life cycle, refer to [show license installed](#) on page 21.





# Evaluation License Commands

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- [add trial online.....](#) 17
- [delete trial online.....](#) 19
- [license expiration-warning period.....](#) 20
- [show license installed.....](#) 21

## add trial online

Adds an evaluation license to an online system.

## Syntax

**add trial online** *license-key*

## Parameters

*license-key*

License key (activation code) that is used to activate the evaluation license. The format of the license-key is xxxx-xxxx-xxxx-xxxx, where x is an alphabetic or a numeric character. The *license-key* must include the "-" characters and is not case-sensitive.

## Modes

Operational mode

## Usage Guidelines

The Brocade vRouter must have an internet connection to the licensing portal. For a connected system, it is assumed that the following prerequisite tasks have been completed:

- Routes for internet access are set up. For further information, refer to *Brocade Vyatta Network OS Basic Routing Configuration Guide*.
- DNS is set up. For further information, refer to *Brocade Vyatta Network OS Services Configuration Guide*
- Interfaces are set up. For further information, refer to *Brocade Vyatta Network OS LAN Interfaces Configuration Guide*.
- The system host name is configured. For further information, refer to *Brocade Vyatta Network OS Basic System Configuration Guide*.

Before entering this command, it is also recommended that you:

- Set the date and time zone: the license-enforcement process may interpret a change to the date or time zone that is made after a license is added to the system as license tampering and disable system functionality.
- Set the host name and domain name: after the host name and domain name are set, it is easy to identify the system on the licensing portal because the fully qualified name, that is, hostname.domain is displayed next to the device ID on the portal.

add trial online

## Examples

The following example shows how to add an evaluation license (with the license key of ABCD-EFGH-IJKL-1234) to the Brocade vRouter that is connected to the licensing portal.

```
vyatta@vyatta:~$ add trial online ABCD-EFGH-IJKL-1234
```

## delete trial online

Deletes an evaluation license from an online system.

### Syntax

```
delete trial online license-key
```

### Parameters

*license-key*

License key (activation code) to be deleted. The format of the license-key is xxxx-xxxx-xxxx-xxxx, where x is an alphabetic or a numeric character. The *license-key* must include the "-" characters and is not case-sensitive.

### Modes

Operational mode

### Usage Guidelines

The Brocade vRouter must have an internet connection to the licensing portal. For a connected system, it is assumed that the following prerequisite tasks have been completed:

- Routes for internet access are set up. For further information, refer to *Brocade Vyatta Network OS Basic Routing Configuration Guide*.
- DNS is set up. For further information, refer to *Brocade Vyatta Network OS Services Configuration Guide*
- Interfaces are set up. For further information, refer to *Brocade Vyatta Network OS LAN Interfaces Configuration Guide*.
- The system host name is configured. For further information, refer to *Brocade Vyatta Network OS Basic System Configuration Guide*.

### Examples

The following example shows how to delete the ABCD-EFGH-IJKL-1234 evaluation license from the Brocade vRouter that is connected to the licensing portal.

```
vyatta@vyatta:~$ delete trial online ABCD-EFGH-IJKL-1234
```

## license expiration-warning period

Specifies the license expiration-warning period.

### Syntax

**set** license expiration-warning period *days*

**delete** license expiration-warning period *days*

### Command Default

The display of messages is enabled.

### Parameters

*days*

Number of days for the license expiration-warning period, that is, the period during which the Brocade vRouter displays upcoming license expiration-warning messages. The number of days ranges from 0 through 120. The default is 30. Specifying 0 disables the display of upcoming license expiration-warning messages on the system.

### Modes

Configuration mode

### Configuration Statement

```
license {  
    expiration-warning {  
        period days  
    }  
}
```

### Usage Guidelines

By default, the Brocade vRouter displays license expiration-warning messages for the 30-day period before the license-expiration date. Use the **set** form of this command to configure an alternate license expiration-warning period.

Use the **delete** form of this command to restore the default license expiration-warning period of 30 days.

## show license installed

Displays information about installed licenses.

### Syntax

```
show license installed
```

### Modes

Operational mode

### Usage Guidelines

This command displays information about licenses that are installed on the Brocade vRouter. It also checks and displays, where applicable, license-related warning messages.

### Command Output

This command displays the following information.

Output field	Description
Device ID	Thirty-character device identifier. The format is xxxxxx-xxxxxx-xxxxxx-xxxxxx-xxxxxx.
Auto-update	Frequency (in days) with which automatic checks for license updates are performed.
Expiration Warning	Number of days before the license-expiration date that the system begins to display warning messages related to an upcoming license expiration date.
License	License token.
Activation ID	Sixteen-character license key. The format is xxxx-xxxx-xxxx-xxxx where x is an alphabetic or a numeric character.
Feature	License type.
Issuer	Name of the issuer of the license.
Start	License start date.
Expiration	License expiry date.

### Examples

For a new system when a license is not yet installed, this command shows the following information.

```
vyatta@vyatta:~$ show license installed

Device ID:      331cb-f91ec-b2440-7fdc0-03461-4a282-089b1-d7884
Auto-Update:    1 days
Expiration Warning:  30 days

WARNING:        A valid vRouter 5600 license was not detected on this device.
                 The license may not be configured or may be expired.
                 vRouter 5600 features have been disabled.

Please install a valid license within 24 hours of vRouter creation.
```

When a valid evaluation license is installed, this command shows the following information.

```
vyatta@vyatta:~$ show license installed

Device ID:      331cb-f91ec-b2440-7fdc0-03461-4a282-089b1-d7884
Auto-Update:    1 days
Expiration Warning: 30 days

License: 60 DAY EVALUATION LICENSE SW
Activation ID:  A047-B811-858F-DC58
Feature:        Evaluation
Issuer:         MANUFACTURER 001
Start Date:     20-Oct-2015
Expiration:     21-Dec-2015
```

In the following example, the license expiration-warning period is configured as 30 days. During the 30-day period before the license-expiration date of December 21, 2015 ( 21-Dec-2015) this command shows the following information.

```
vyatta@vyatta:~$ show license installed

Device ID:      331cb-f91ec-b2440-7fdc0-03461-4a282-089b1-d7884
Auto-Update:    1 days
Expiration Warning: 30 days

License: 60 DAY EVALUATION LICENSE SW
Activation ID:  A047-B811-858F-DC58
Feature:        Evaluation
Issuer:         MANUFACTURER 001
Start Date:     20-Oct-2015
Expiration:     21-Dec-2015

WARNING: The license for A047-B811-858F-DC58 will expire on 21-Dec-2015.
```

# Syslog Messages

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<b>Message</b>	<code>A valid vRouter 5600 license was not detected on this device.</code>
<b>Explanation</b>	Indicates that a valid license is not detected on the system. If a license exists, it may not be configured or it may have expired. For further information about license management, refer to the License Management Tasks section.
<b>Message Level</b>	Warning
<b>Message</b>	<code>The license for ABCD-EFGH-IJKL-1234 will expire on 30-Oct-2015.</code>
<b>Explanation</b>	Indicates that the current date on the system is within the warning period before the license expiration date.
<b>Message Level</b>	Warning
<b>Message</b>	<code>The license for &lt;ABCD-EFGH-IJKL-1234 expired on 30-Oct-2015.</code>
<b>Explanation</b>	Indicates that the license has expired but the current date on the system is within the grace period allowed for license renewal. Licensed features on the system continue to function but changes are not permitted.
<b>Message Level</b>	Alert