

VYATTA, INC.

| **Vyatta System**

Hard Disks and Persistent Devices

INSTALLING AND UPGRADING



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Quick List of Examples

Use this list to help you locate examples you'd like to look at or try.

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Preface

This document describes how to install and upgrade software on a persistent device, such as hard disk, Flash drive, or USB stick.

This preface provides information about using this guide. The following topics are presented:

- [Intended Audience](#)
- [Organization of This Guide](#)
- [Document Conventions](#)
- [Vyatta Publications](#)

Intended Audience

This guide is intended for experienced system and network administrators. Depending on the functionality to be used, readers should have specific knowledge in the following areas:

- Networking and data communications
- TCP/IP protocols
- General router configuration
- Routing protocols
- Network administration
- Network security
- IP services

Organization of This Guide

This guide has the following aids to help you find the information you are looking for:

- [Quick List of Examples](#)
Use this list to help you locate examples you'd like to look at or try.
- [Quick List of Commands](#)
Use this list to help you quickly locate commands.

This guide has the following chapters:

Chapter	Description	Page
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Document Conventions

This guide uses the following advisory paragraphs, as follows.



WARNING Warnings alert you to situations that may pose a threat to personal safety.



CAUTION Cautions alert you to situations that might cause harm to your system or damage to equipment, or that may affect service.

NOTE Notes provide information you might need to avoid problems or configuration errors.

This document uses the following typographic conventions.

Monospace	Examples, command-line output, and representations of configuration nodes.
bold Monospace	Your input: something you type at a command line.
bold	Commands, keywords, and file names, when mentioned inline. Objects in the user interface, such as tabs, buttons, screens, and panes.
<i>italics</i>	An argument or variable where you supply a value.
<key>	A key on your keyboard, such as <Enter>. Combinations of keys are joined by plus signs (“+”), as in <Ctrl>+c.
[key1 key2]	Enumerated options for completing a syntax. An example is [enable disable].
<i>num1–numN</i>	A inclusive range of numbers. An example is 1–65535, which means 1 through 65535, inclusive.
<i>arg1..argN</i>	A range of enumerated values. An example is eth0..eth3, which means eth0, eth1, eth2, or eth3.
<i>arg[arg...]</i> <i>arg[,arg...]</i>	A value that can optionally represent a list of elements (a space-separated list and a comma-separated list, respectively).

Vyatta Publications

Full product documentation is provided in the Vyatta technical library. To see what documentation is available for your release, see the *Guide to Vyatta Documentation*. This guide is posted with every release of Vyatta software and provides a great starting point for finding the information you need.

Additional information is available on www.vyatta.com and www.vyatta.org.

Chapter 1: Installing the System

This chapter describes how to perform a new install of the Vyatta system onto a hard disk or other persistent device.

This chapter presents the following topics:

- [Overview](#)
- [Types of Install](#)
- [Before You Begin](#)
- [Image-Based Install](#)
- [Disk-Based Install](#)
- [Sample Install Session](#)
- [Specify the Boot Device in the System BIOS](#)
- [Test Your Installation](#)

Overview

The Vyatta system can be installed and run on most standard x86 servers and PCs. The system can be installed from a LiveCD onto a variety of persistent devices, including hard drive, USB memory stick, and compact Flash.

You can install the system from a LiveCD you create beforehand. The install process uses the LiveCD as the source image, formats the device where the system is being installed, installs the system and, if possible, preserves configuration from previous installations. When the install process is complete, you reboot your system and the newly-installed system begins running.

NOTE *Not all hardware supports the ability to boot from USB device or Flash; check the BIOS of your hardware to see if yours does.*

Types of Install

There are two ways to install onto persistent physical devices:

- [Image-Based Install](#)
- [Disk-Based Install](#)

Image-Based Install

The simplest, most flexible, and most powerful way to install a Vyatta system is using a binary system image. With this method, you can install multiple versions of the Vyatta system as images and switch between the images simply and easily.

Disk-Based Install

Unlike an image-based install, which uses a binary image of the system, a disk-based install uses a traditional layout of files on the disk.

If you have installed your system using a disk-based install, you can add system images at a later time.

NOTE *Vyatta recommends using the **install image** command over the **install system** command.*

Before You Begin

Before installing, prepare for the installation:

- Find out the system name of the device onto which the software is to be installed. The installation process reformats the specified partition, so it is critical to specify the correct partition. For systems dedicated to Vyatta, the system selected defaults can be used.

If you are installing onto a USB memory stick, insert the memory stick into a USB port. The system will detect that the USB device is installed and notify you; record the name of the device as displayed in the system message (for example, `/dev/sdb`). Specify this device when prompted during the installation procedure.
- Make sure you have a minimum of 1 GB of free space on the system for a root partition. A minimum of 2 GB of free space is recommended for a production installation.
- If you plan to install onto a USB stick, check the BIOS setup of your hardware to confirm that it supports the ability to boot from a USB device.

Image-Based Install

To perform an image-based install, you run the **install image** command from a running system. For a fresh install, the running system is a LiveCD you create beforehand.

The process for creating a Vyatta LiveCD is described in *Installing the System: Creating and Using a LiveCD*.

To install the binary image

- 1 Create and boot the Vyatta LiveCD.
- 2 Log on as user **vyatta** with password **vyatta**.
- 3 Execute the **install image** command. The system installs.
- 4 When installation is complete, remove the LiveCD.
- 5 Set the BIOS on your system to boot from the device on which the Vyatta software is now installed.
- 6 Reboot the system.
- 7 Test the installation.

Disk-Based Install

To perform a disk-based install, you run the **install system** command from a running LiveCD system.

NOTE Vyatta recommends using the **install image** command over the **install system** command.

To use a disk-based install

- 1 Create and run the Vyatta LiveCD, as described in *Installing the System: Creating and Using a LiveCD*.
- 2 Login as user **vyatta** with password **vyatta**.
- 3 Execute the **install system** command.
- 4 When installation is complete, remove the LiveCD.
- 5 Set the BIOS to boot from the device on which the system is now installed.
- 6 Reboot the system.
- 7 Test the installation.

Sample Install Session

The following is a sample VMware installation session using the **install image** command.

Example 1-1 Sample install session

```
vyatta@vyatta:~$ install image
Welcome to the Vyatta install program. This script
will walk you through the process of installing the
Vyatta image to a local hard drive.

Would you like to continue? (Yes/No) [Yes]: <Enter>
Probing drives: OK
Looking for pre-existing RAID groups...none found.
The Vyatta image will require a minimum 1000MB root.
Would you like me to try to partition a drive automatically
or would you rather partition it manually with parted? If
you have already setup your partitions, you may skip this step.

Partition (Auto/Parted/Skip) [Auto]: <Enter>
```

```
I found the following drives on your system:
sda    1074MB
```

```
Install the image on? [sda] <Enter>
```

```
This will destroy all data on /dev/sda.
Continue? (Yes/No) [No]: Yes
```

```
How big of a root partition should I create? (1000MB - 1074MB) [1074]MB:
<Enter>
```

```
Creating filesystem on /dev/sda1: OK
```

```
Done!
```

```
Mounting /dev/sda1...
```

```
What would you like to name this image? [VSE6.4-2012.03.09]: <Enter>
```

```
OK. This image will be named: VSE6.4-2012.03.09
```

```
Copying squashfs image...
```

```
Copying kernel and initrd images...
```

```
Done!
```

```
I found the following configuration files:
```

```
    /config/config.boot
```

```
    /opt/vyatta/etc/config.boot.default
```

```
Which one should I copy to sda? [/config/config.boot]: <Enter>
```

```
Copying /config/config.boot to sda.
```

```
Enter password for administrator account
```

```
Enter vyatta password:vyatta
```

```
Retype vyatta password:vyatta
```

```
I need to install the GRUB boot loader.
```

```
I found the following drives on your system:
```

```
    sda    1074MB
```

```
Which drive should GRUB modify the boot partition on? [sda]: <Enter>
```

```
Setting up grub: OK
```

```
Done!
```

```
vyatta@vyatta:~$
```

Specify the Boot Device in the System BIOS

You can configure the BIOS to specify the device from which to boot.

To specify the boot device

- 1 During the boot sequence press the appropriate key sequence (for example, <F2>) to interrupt the boot sequence and enter your system's BIOS setup program.
- 2 In the boot sequence menu arrange the boot devices such that the device name (for example, "USB HDD" for a USB stick or "IDE" or "SATA" for a compact Flash) is first in the list so that the system will attempt to boot from it first.
- 3 Save the settings and reboot the system. When the system restarts, it will boot from the device specified.

Test Your Installation

Once the system has successfully booted you will see the **vyatta login:** prompt. This indicates that the system is operational.

You should:

- [Verify the Release and System Type](#)
- [Verify Connectivity](#)

Verify the Release and System Type

The next step is to confirm that the correct release is running and it is running on the device that you expect.

To verify the release and system type

- 1 Login as user **vyatta** with password **vyatta** (default login ID).
- 2 Run the **show version** command, as in the following example. [Example 1-2](#) shows version information for a system running on an Intel 32-bit hardware-based system.

Example 1-2 Displaying version information

```
vyatta@vyatta:~$ show version
Version:      VSE6.3-2011.07.21
Description:  Vyatta Subscription Edition 6.3 2011.07.21
Copyright:   2006-2011 Vyatta, Inc.
```



```
Built by:      autobuild@vyatta.com
Built on:      Thu Jul 21 06:05:29 UTC 2011
Build ID:      1107210624-d7a3790
System type:   Intel 32bit
Boot via:      image
HW model:      Latitude E6520
HW S/N:        9KC95P2
HW UUID:       43454D4C-4B00-1022-3454-B9B044382349
Uptime:        19:44:57 up 15 min,  1 user,  load average: 0.00, 0.12, 0.11
vyatta@vyatta:~$
```

The **Version:** line shows the version number of the running system. In this example the version is **VSE6.3-2011.07.21**.

The **System Type:** line shows the type of hardware the system is running on and whether it is in a virtual environment. The system in the example is running on an Intel 32-bit system, not in a virtual environment.

The **Boot via:** line shows the type of system that is running:

- **livecd** — The system is running from a LiveCD.
- **image** — The system is running as an image-based system.
- **disk** — The system is running as a disk-based system.

The system in the example is running as an image-based system.

Verify Connectivity

The final step is to confirm that the Vyatta system can be accessed on the local network. A quick and easy way to do this is to configure an Ethernet interface on the system and then ping the interface from another host on the network.

NOTE Make sure that the system is physically connected to the network first.

To test system connectivity

- 1 At the command prompt, enter the commands shown in the example, substituting an IP address on your existing subnet. In this example:
 - The network is 192.168.1.0/24

- The IP address of the interface is 192.168.1.81

Make the appropriate substitutions for your network, as in the following example.

Example 1-3 Configuring a test Ethernet interface

```
vyatta@vyatta:~$ configure
vyatta@vyatta# set interfaces ethernet eth0 address 192.168.1.81/24
vyatta@vyatta# commit
vyatta@vyatta# exit
vyatta@vyatta:~$
```

- 2** From another host on the same subnet, ping the interface to ensure that it is up. From a Linux or Windows command prompt, enter the following command (substituting the IP address you assigned to the interface):

```
ping 192.168.1.81
```

If the Vyatta system is reachable, you will see replies from it in response to the pings. If so, your system is installed and accessible on your network.

Chapter 2: Upgrading the System

This chapter describes options for upgrading Vyatta system software

In this chapter:

- [Release-Specific Upgrade Information](#)
- [Upgrade Overview](#)
- [Before Upgrading](#)
- [Upgrade Procedure - upgrade system image](#)
- [Upgrade Procedure - add system image](#)

Release-Specific Upgrade Information

Your system may have special upgrade considerations, depending on your release. For release-specific upgrade information, and to ensure that configuration information is correctly preserved, see the Release Notes for your release.

Upgrade Overview

There are two supported upgrade methods for physical hardware systems: using **upgrade system image**, and using **add system image**.

The **upgrade system image** method is the simplest. It is available only to Vyatta subscription customers. Once the command is run, and you enter your Vyatta subscription username and password, the system checks the Vyatta download site for the latest version of software, downloads it, and migrates the current system configuration to the new image. Once the system is rebooted, the new image is running.

The **add system image** method requires downloading a new system image from the Vyatta download site, then adding the image to whatever previous versions of the system are already present using the **add system image** command. The **add system image** command also allows you to migrate the current configuration to the new image. Once the system is rebooted, the new image is running.

Before Upgrading

Before upgrading:

- Save your existing configuration file for reference. Your configuration file is named **config.boot** and is located in the directory **/config**.
- Make sure you have enough space on your root partition to load the image. You can determine the amount of space available using the **show system storage** command.

Upgrade Procedure - upgrade system image



This feature is available only in the Vyatta Subscription Edition.

The **upgrade system image** command uses the latest Vyatta system ISO file as the image source. It automatically determines which is the most appropriate image to use, downloads it, installs it with existing images, migrates configuration files from the running system, and sets the new image as the default boot image. The new image is run the next time the system reboots.

To upgrade

- 1 Execute the **upgrade system image** command and follow the prompts; see [Example 2-1](#).
- 2 Reboot the system using the **reboot** command. The system restarts using the new system image.

Sample Session

[Example 2-1](#) shows a session where the **upgrade system image** command is used to upgrade to the latest system image.

NOTE You will not be prompted for your repository username and password if they are already configured within the entitlement system.

Example 2-1 Upgrading a system image

```
vyatta@vyatta:~$ upgrade system image
Vyatta image upgrade utility.
Please enter repository username: testco
Please enter repository password: testpassword
Checking for updated images on the Vyatta repository...
I have found a newer system image on the Vyatta repository.
The new image is version: VSE6.4-2012.02.09
Would you like to upgrade to this image? [Yes/No] yes
OK... Starting process to upgrade system image.
Trying to fetch ISO file from
http://packages.vyatta.com/vyatta-supported/iso/stable/vyatta-livecd_VSE
6.4-2012.02.09_i386.iso
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total     Spent    Left  Speed
100 196M 100 196M    0     0  489k      0  0:06:49  0:06:49 --:--:-- 559k
ISO download succeeded.
Checking for digital signature file...
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total     Spent    Left  Speed
100 189 100 189    0     0   169      0  0:00:01  0:00:01 --:--:-- 2333
Found it. Checking digital signature...
gpg: directory `/root/.gnupg' created
gpg: new configuration file `/root/.gnupg/gpg.conf' created
```

```
gpg: WARNING: options in `/root/.gnupg/gpg.conf' are not yet active during
this run
gpg: keyring `/root/.gnupg/pubring.gpg' created
gpg: Signature made Mon Feb 6 16:42:22 2012 GMT+8 using DSA key ID 9436A9F8
gpg: /root/.gnupg/trustdb.gpg: trustdb created
gpg: Good signature from "Autobuild <autobuild@vyatta.com>"
gpg: WARNING: This key is not certified with a trusted signature!
gpg:      There is no indication that the signature belongs to the owner.
Primary key fingerprint: 1B49 FE0A 0239 706A C6D4 13B0 04A2 5B93 9436 A9F8
Digital signature is valid.
Checking MD5 checksums of files on the ISO image...OK.
Done!
What would you like to name this image? [VSE6.4-2012.02.09]: <Enter>
OK. This image will be named: VSE6.4-2012.02.09
Installing "VSE6.4-2012.02.09" image.
Copying new release files...
Would you like to save the current configuration
directory and config file? (Yes/No) [Yes]: <Enter>
Copying current configuration...
Would you like to save the SSH host keys from your
current configuration? (Yes/No) [Yes]: <Enter>
Copying SSH keys...
Setting up grub configuration...
Done.
```

Upgrade Procedure - add system image

The **add system image** command also uses a Vyatta system ISO file as the image source. It installs the image with existing images and sets the new image as the default boot image. The new image is run the next time the system reboots.

To upgrade

- 1 Execute the **add system image** command using the location and name of the Vyatta system image ISO file as an argument, as shown in [Example 2-2](#).
 - Vyatta subscription customers use: <http://packages.vyatta.com/vyatta-supported/iso/stable/>.
 - Vyatta community customers use: <http://www.vyatta.org/downloads/>.
- 2 (Optional) Confirm that the ISO loaded and is ready to run the next time the system is rebooted using the **show system image** command; see [Example 2-3](#).
- 3 Reboot the system using the **reboot** command. The system restarts using the new system image.

Sample Session

[Example 2-2](#) shows a session where the **add system image** command is used to upgrade to system image **xxx.iso** located at <http://www.vyatta.org/downloads/>.

Example 2-2 Adding a system image

```
vyatta@vyatta:~$ add system image http://www.vyatta.org/downloads/xxx.iso
Welcome to the Vyatta install program. This script
will walk you through the process of installing the
Vyatta image to a local hard drive.
Would you like to continue? (Yes/No) [Yes]:<Enter>
Trying to fetch ISO file from http://www.vyatta.org/downloads/xxx.iso
#####
100.0%
ISO download succeeded.
Checking MD5 checksums of files on the ISO image...OK.
You are running an installed system. Do you want to use the current install
partition? (Yes/No) [Yes]:<Enter>

Done!
Installing "xxx" release.
Copying new release files...
Would you like to save the current configuration
directory and use the current start-up configuration
for the new version? (Yes/No) [Yes]:<Enter>
Copying current configuration...
Setting up grub configuration...
Done.
```

[Example 2-3](#) uses the **show system image** command to view installed images.

Example 2-3 Showing system images

```
vyatta@vyatta:~$ show system image
The system currently has the following image(s) installed:

1: xxx (default boot)
2: yyy (running version)
```

Chapter 3: Installation and Upgrade Commands

This chapter describes installation and upgrade commands.

This chapter presents the following commands.

Configuration Commands	
None.	
Operational Commands	
<code>add system image</code>	Adds a binary system image to the currently running system.
<code>clone system image</code>	Creates a copy of a Vyatta system image installed on the local system or on a remote system.
<code>delete system image</code>	Deletes a Vyatta system image.
<code>install image</code>	Installs a Vyatta system image, using a binary system image.
<code>install system</code>	Installs Vyatta system software, using a traditional layout of files.
<code>rename system image</code>	Renames a Vyatta system image.
<code>set system image default-boot</code>	Selects a Vyatta system image to be run when the system is next rebooted.
<code>show system image</code>	Displays a list of Vyatta system images installed on the system.
<code>upgrade system image</code>	Upgrades the currently running system to the latest version.

add system image

Adds a binary system image to the currently running system.

Syntax

```
add system image {iso-filename | iso-URL [username username password password]}
```

Command Mode

Operational mode.

Parameters

<i>iso-filename</i>	The name of the Vyatta system image file to be added.
<i>iso-URL</i>	The URL location of the Vyatta system image file to be added.
<i>username</i>	Optional. The username required to login to the remote system at the specified URL location.
<i>password</i>	Optional. The password required to login to the remote system at the specified URL location. If the username is specified, then a password must also be specified.

Default

None.

Usage Guidelines

Use this command to add a binary Vyatta system image to the currently running system. A system image can be added to a system that was installed using a disk-based install (using the **install system** command) or an image-based install (using the **install image** command). Once added, it will be set as the new default boot image and will be run the next time the system is booted.

The command will validate the MD5 checksums of the files contained in the ISO image to ensure that it has not been corrupted. In addition, it will not allow more than a single copy of an image to exist on the same system.

The *iso-filename* or *iso-URL* arguments provide the source for the ISO image file.

NOTE If you are accessing the ISO image on the web, in most browsers right-clicking the link to the file will provide access to the URL which can then be copied and pasted as the *iso-URL* argument to this command.

The following table shows the syntax for file specification for different file locations.

Table 3-1

Location	Specification
An absolute path	For <i>iso-filename</i> use standard UNIX file specification.
A relative path	For <i>iso-filename</i> you can also specify the path name relative to the current directory.
FTP server	<p>Use the following syntax for the <i>iso-URL</i> argument:</p> <pre>ftp://user:passwd@host/image-file</pre> <p>where <i>user</i> is the username on the host, <i>passwd</i> is the password associated with the username, <i>host</i> is the host name or IP address of the FTP server, and <i>image-file</i> is the ISO image file, including the path. Alternatively, the username and password can be specified as username and password arguments to the add system image command.</p> <p>If you do not specify <i>user</i> and <i>passwd</i> you are prompted for them.</p>
SCP server	<p>Use the following syntax for the <i>iso-URL</i> argument:</p> <pre>scp://user:passwd@host/image-file</pre> <p>where <i>user</i> is the username on the host, <i>passwd</i> is the password associated with the username, <i>host</i> is the host name or IP address of the SCP server, and <i>image-file</i> is the ISO image file, including the path. Alternatively, the username and password can be specified as username and password arguments to the add system image command.</p> <p>If you do not specify <i>user</i> and <i>passwd</i> you will be prompted for them.</p>
HTTP server	<p>Use the following syntax for the <i>iso-URL</i> argument:</p> <pre>http://host/image-file</pre> <p>where <i>host</i> is the host name or IP address of the HTTP server and <i>image-file</i> is the ISO image file, including the path.</p>
TFTP server	<p>Use the following syntax for the <i>iso-URL</i> argument:</p> <pre>tftp://host/image-file</pre> <p>where <i>host</i> is the host name or IP address of the TFTP server, and <i>image-file</i> is the ISO image file, including the path relative to the TFTP root directory.</p>

clone system image

Creates a copy of a Vyatta system image installed on the local system or on a remote system.

Syntax

```
clone system image [user@host:]source-image-name new-image-name [clean]
```

Availability



Vyatta Subscription Edition.

Command Mode

Operational mode.

Parameters

<i>user</i>	The user name on a remote host. Required for remote host access via SCP. Not required for cloning a local system image.
<i>host</i>	The hostname or IP address of a remote host. Required for remote host access using SCP. Not required for cloning a local system image.
<i>source_image-name</i>	The name of the system image to be copied. The source image can exist on the local system or a remote system.
<i>new-image-name</i>	The name of the new (copied) system image. An image with this name must not already exist on the system.
clean	Creates an empty read-write directory tree for the new image. This creates a new image that is functionally equivalent to the source image as it existed when it was originally installed.

Default

None.

Usage Guidelines

Use this command to create a copy of a system image installed on the local system or on a remote system to the local system.

If `user@host` is specified, the image is fetched from the named host using the SCP protocol. If `user@host` is omitted, the `source-image-name` is the name of an image that already exists on the system. The `new-image-name` is the image name that the system uses for the clone. There must be no image by that name already existing on the system.

Command completion is performed for local image names if `user@host` is not specified. No command completion is performed on remote image names if `user@host` is specified.

If the `clean` argument is omitted, the command copies the `squashfs` file being used by the image named `source-image-name` as well as the read-write directory tree of `source-image-name`. If the `clean` argument is given, then the read-write directory tree of `source-image-name` is NOT copied. Instead, an empty read-write directory tree is created for the new image. This creates a new image that is functionally equivalent to the source image as it existed when it was initially installed.

Images created by this command behave the same as images installed by the [install image](#) or the [add system image](#) commands.

The `https` and `ssh` services must both be enabled on the remote Vyatta system in order for the [clone system image](#) command to work properly. The `https` service is enabled using `set service https` in Configuration mode. The `ssh` service is enabled using `set service ssh` in Configuration mode.

NOTE *This command is only available in the Vyatta Subscription Edition.*

delete system image

Deletes a Vyatta system image.

Syntax

```
delete system image [image-name]
```

Command Mode

Operational mode.

Parameters

<i>image-name</i>	The name of the Vyatta system image to be deleted.
-------------------	--

Default

When used with no options, the system prompts for the image to delete.

Usage Guidelines

Use this command to delete a Vyatta system image from the local disk drive.

The image and all of its local files, including its Vyatta configuration file, are all destroyed. Since this command is destructive, the system prompts for confirmation.

Command completion displays all valid completions for the *image-name* argument. If the *image-name* argument is omitted, the system displays a list of available images and prompts you to select one.

If the system was originally installed in disk-based mode, an **image-name** option is available that you can use to direct that the disk-based installation should be deleted.

The system does not allow you to delete the currently running system image. However, the system does allow you to delete the image currently selected to be run at the next reboot. If you choose this, the system uses the currently running image when the system is next rebooted.

install image

Installs a Vyatta system image, using a binary system image.

Syntax

```
install image
```

Command Mode

Operational mode.

Parameters

None.

Default

None.

Usage Guidelines

Use this command to install a Vyatta system binary image.

This command is similar to the **install system** command in functionality. Once the installation is complete you can add multiple Vyatta versions into the same partition, using the **add system image** command, and you can then choose which version to boot, using the **set system image default-boot** command. This allows you to move easily between different versions of the system.

If you have a new system and want to install the Vyatta system from scratch, you can boot the Vyatta LiveCD and then run the **install image** command to install the image on the LiveCD to the disk. The **install image** command operates similarly to the **install system** command—it creates and formats a new disk partition and then installs the image to the partition while preserving the system configuration.

install system

Installs Vyatta system software, using a traditional layout of files.

Syntax

```
install system
```

Command Mode

Operational mode.

Parameters

None.

Default

None.

Usage Guidelines

Use this command to install Vyatta software from a LiveCD onto a persistent device such as a hard disk.

NOTE Vyatta recommends using the **install image** command over the **install system** command.

If you have a new system and want to install the Vyatta system from scratch, you can boot the Vyatta LiveCD and then run the **install system** command to install the system on the LiveCD to the disk. The **install system** command operates similarly to the **install image** command—it creates and formats a new disk partition and then installs the system to the partition while preserving the system configuration.

rename system image

Renames a Vyatta system image.

Syntax

```
rename system image old-image-name new-image-name
```

Command Mode

Operational mode.

Parameters

<i>old-image-name</i>	The name of an existing Vyatta system image to be renamed.
<i>new-image-name</i>	The new name of the Vyatta system image.

Default

None.

Usage Guidelines

Use this command to rename a Vyatta system image.

The old name must match the name of an image on the system. The system does not allow you to rename the currently running system image. The new system image name cannot be in use by another image.

set system image default-boot

Selects a Vyatta system image to be run when the system is next rebooted.

Syntax

```
set system image default-boot [image-name]
```

Command Mode

Operational mode.

Parameters

<i>image-name</i>	The name of the Vyatta system image to be run when the system is rebooted.
-------------------	--

Default

If used with no image name specified, the system displays a list of available images and prompts you to select one.

Usage Guidelines

Use this command to specify which Vyatta system image is to be run when the system is next rebooted.

When multiple system images have been installed using the **add system image** command, you can use this command to direct the system to boot from a specific system image the next time it is restarted.

Command completion displays all valid completions for the *image-name* argument. If the *image-name* argument is omitted, the system displays a list showing all images installed on the system and prompts you to select one. If the system was originally installed in disk-based mode, then a special **image-name** option is available so that you can select the disk-based system as the default system from which to boot.

show system image

Displays a list of Vyatta system images installed on the system.

Syntax

```
show system image [storage | version]
```

Command Mode

Operational mode.

Parameters

storage	Display the amount of disk space used by each image.
version	Include the image version number in the display of system images.

Default

None.

Usage Guidelines

Use this command to display a list of all Vyatta system images currently installed on the system.

The command output identifies the image that is currently running, as well as the image that has been selected to run when the system is next rebooted. If the system was originally installed in disk-based mode, then one of the image names identifies that installation.

upgrade system image

Upgrades the currently running system to the latest version.

Syntax

```
upgrade system image
```

Availability



Vyatta Subscription Edition.

Command Mode

Operational mode.

Parameters

None.

Default

None.

Usage Guidelines

Use this command to upgrade the Vyatta system image to the latest release. It is the preferred method of system upgrade. The system image can be upgraded on a system that was installed using a disk-based install (using the **install system** command) or an image-based install (using the **install image** command or from a virtual machine template). Once the new image is added to the system, the configuration from the currently running system can be migrated. Also, the new image will be set as the new default boot image and will be run the next time the system is booted.

The command will validate the MD5 checksums of the files contained in the ISO image to ensure that it has not been corrupted. In addition, it will not allow more than a single copy of an image to exist on the same system.

Glossary

ACL	access control list
ADSL	Asymmetric Digital Subscriber Line
AMI	Amazon Machine Image
API	Application Programming Interface
AS	autonomous system
ARP	Address Resolution Protocol
AWS	Amazon Web Services
BGP	Border Gateway Protocol
BIOS	Basic Input Output System
BPDU	Bridge Protocol Data Unit
CA	certificate authority
CCMP	AES in counter mode with CBC-MAC
CHAP	Challenge Handshake Authentication Protocol
CLI	command-line interface
DDNS	dynamic DNS
DHCP	Dynamic Host Configuration Protocol
DHCPv6	Dynamic Host Configuration Protocol version 6
DLCI	data-link connection identifier
DMI	desktop management interface
DMZ	demilitarized zone
DN	distinguished name
DNS	Domain Name System
DSCP	Differentiated Services Code Point

DSL	Digital Subscriber Line
eBGP	external BGP
EBS	Amazon Elastic Block Storage
EC2	Amazon Elastic Compute Cloud
EGP	Exterior Gateway Protocol
ECMP	equal-cost multipath
ESP	Encapsulating Security Payload
FIB	Forwarding Information Base
FTP	File Transfer Protocol
GRE	Generic Routing Encapsulation
HDLC	High-Level Data Link Control
I/O	Input/Output
ICMP	Internet Control Message Protocol
IDS	Intrusion Detection System
IEEE	Institute of Electrical and Electronics Engineers
IGP	Interior Gateway Protocol
IPS	Intrusion Protection System
IKE	Internet Key Exchange
IP	Internet Protocol
IPOA	IP over ATM
IPsec	IP security
IPv4	IP Version 4
IPv6	IP Version 6
ISP	Internet Service Provider
KVM	Kernel-Based Virtual Machine
L2TP	Layer 2 Tunneling Protocol

LACP	Link Aggregation Control Protocol
LAN	local area network
LDAP	Lightweight Directory Access Protocol
LLDP	Link Layer Discovery Protocol
MAC	medium access control
MIB	Management Information Base
MLPPP	multilink PPP
MRRU	maximum received reconstructed unit
MTU	maximum transmission unit
NAT	Network Address Translation
ND	Neighbor Discovery
NIC	network interface card
NTP	Network Time Protocol
OSPF	Open Shortest Path First
OSPFv2	OSPF Version 2
OSPFv3	OSPF Version 3
P2P	peer-to-peer
PAM	Pluggable Authentication Module
PAP	Password Authentication Protocol
PAT	Port Address Translation
PCI	peripheral component interconnect
PKI	Public Key Infrastructure
PPP	Point-to-Point Protocol
PPPoA	PPP over ATM
PPPoE	PPP over Ethernet
PPTP	Point-to-Point Tunneling Protocol

PVC	permanent virtual circuit
QoS	quality of service
RADIUS	Remote Authentication Dial-In User Service
RHEL	Red Hat Enterprise Linux
RIB	Routing Information Base
RIP	Routing Information Protocol
RIPng	RIP next generation
Rx	receive
S3	Amazon Simple Storage Service
SLAAC	Stateless Address Auto-Configuration
SNMP	Simple Network Management Protocol
SMTP	Simple Mail Transfer Protocol
SONET	Synchronous Optical Network
SSH	Secure Shell
SSID	Service Set Identifier
STP	Spanning Tree Protocol
TACACS+	Terminal Access Controller Access Control System Plus
TCP	Transmission Control Protocol
TKIP	Temporal Key Integrity Protocol
ToS	Type of Service
Tx	transmit
UDP	User Datagram Protocol
vif	virtual interface
VLAN	virtual LAN
VPC	Amazon virtual private cloud
VPN	Virtual Private Network

VRRP	Virtual Router Redundancy Protocol
WAN	wide area network
WAP	wireless access point
WPA	Wired Protected Access
