



# Parallels Server 5 Bare Metal

Upgrade Guide

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## CHAPTER 1

# About This Document

This document familiarizes you with the way to upgrade the following products to Parallels Server 5 Bare Metal:

- Parallels Server 4 Bare Metal
- Parallels Virtuozzo Containers 4.7 for Linux
- Parallels Virtuozzo Containers 4.6 for Linux
- Parallels Virtuozzo Containers 4.0 for Linux
- SWsoft Virtuozzo 3.0 Service Pack 1
- OpenVZ

## CHAPTER 2

# Upgrade Scenarios

Before beginning the upgrade process, it is important to choose the proper upgrade scenario. Doing so will help you avoid difficulties you may otherwise encounter and will also ensure you can successfully solve any problems that may still occur.

You can use one of the following scenarios to upgrade your system:

- *Installation on a spare server.* If you have a spare server, you can install Parallels Server 5 Bare Metal on this server and then move Containers and virtual machines there. Detailed information on this scenario is given in **Upgrading With a Spare Server** (p. 7).
- *In-place upgrade.* If you want to upgrade to Parallels Server 5 Bare Metal but do not have a spare server, you can upgrade an existing system. Detailed information on this scenario is given in **Performing an In-Place Upgrade** (p. 8).

## CHAPTER 3

# Preparing for the Upgrade

It is recommended that you do the following before starting the upgrade:

- Install all Parallels updates available for your system.
- Back up all Containers and virtual machines on the server.
- Perform a full backup of the entire server using a third-party software. For example, you can make use of the Acronis Backup & Recovery 10 Advanced Server (a free trial version is available at <http://www.acronis.com/backup-recovery/advanced-server>) software allowing you to quickly create an exact copy of your server and to easily restore the entire system if something goes wrong during the upgrade.

## Upgrading With a Spare Server

If you have a spare server, you can install Parallels Server 5 Bare Metal on this server and then move Containers and virtual machines to the server. This upgrade scenario is supported for the following Parallels products:

- Parallels Server 4 Bare Metal
- Parallels Virtuozzo Containers 4.7 for Linux
- Parallels Virtuozzo Containers 4.6 for Linux
- Parallels Virtuozzo Containers 4.0 for Linux
- SWsoft Virtuozzo 3.0 Service Pack 1
- OpenVZ

To upgrade to Parallels Server 5 Bare Metal using a spare server, do the following:

- 1** Prepare for the upgrade using the instructions in **Preparing for the Upgrade** (p. 6).
- 2** Install Parallels Server 5 Bare Metal on the spare server.
- 3** Migrate all Containers and virtual machines from the source server to the spare server. See the *Parallels Server 5 Bare Metal User's Guide* for details.
- 4** If you store the backups of Containers and virtual machines on the source server, copy them to the spare server.

# Performing an In-Place Upgrade

If you do not have a spare server, you can still upgrade your system to Parallels Server 5 Bare Metal. In this case, the upgrade procedure will differ depending on the Parallels product you plan to upgrade:

- To upgrade a system running Parallels Server 4 Bare Metal, see **Upgrading Parallels Server 4 Bare Metal** (p. 9).
- To upgrade a system running Parallels Virtuozzo Containers 4.7, Parallels Virtuozzo Containers 4.6 for Linux, Parallels Virtuozzo Containers 4.0 for Linux, or SWsoft Virtuozzo 3.0, see **Upgrading Parallels Virtuozzo Containers** (p. 10).
- To upgrade a system running OpenVZ, see **Upgrading OpenVZ** (p. 11).

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## Upgrading Parallels Server 4 Bare Metal

The easiest way to upgrade a system running Parallels Server 4 Bare Metal to Parallels Server 5 Bare Metal is to perform an in-place upgrade of the system. To upgrade your system using this scenario, you can use one of the following means:

- ISO image
- PXE server

### Upgrading from an ISO image

To upgrade to Parallels Server 5 Bare Metal using an ISO image, do the following:

- 1** Download the ISO image containing the installation files of Parallels Server 5 Bare Metal from the Parallels web site.
- 2** Burn the image to a DVD.
- 3** Install Parallels Server 5 Bare Metal from the DVD. For detailed installation instructions, see the **Upgrading to Parallels Server 5 Bare Metal** section in the *Parallels Server 5 Bare Metal Installation Guide*.

### Upgrading via a PXE server

You can also upgrade your existing system over a network using a PXE (Preboot Execution Environment) server. To upgrade Parallels Server 5 Bare Metal over a network, you need to complete the following steps:

- 1** Prepare for installation from a PXE server.
- 2** Create a kickstart file. This step is only required if you plan to automate the procedure of deploying Parallels Server Bare Metal on your servers.
- 3** Upgrade Parallels Server Bare Metal.

For detailed information on performing these steps, consult the *Installation via PXE Server* guide.

## Upgrading Parallels Virtuozzo Containers

To upgrade a system that runs Parallels Virtuozzo Containers 4.7, Parallels Virtuozzo Containers 4.0, Parallels Virtuozzo Containers 4.6, or Virtuozzo 3.0, do the following:

**1** Prepare for the upgrade using the instructions in **Preparing for the Upgrade** (p. 6).

Also make sure that you back up all Virtuozzo and Container configuration files. These are the following files:

- `/etc/sysconfig/vz-scripts/*.conf`
- `/etc/sysconfig/vz-scripts/*.mount`
- `/etc/sysconfig/vz-scripts/*.umount`
- `/etc/vz/*`
- `/etc/sysconfig/vz`
- `/etc/cron.d/venetclean`
- `/etc/cron.d/vereboot`

If `/vz` is a directory rather than a separate partition, you also need to back up this directory.

**2** Install Parallels Server 5 Bare Metal on the server. Use these guidelines:

- a** Follow the instructions in the *Parallels Server 5 Bare Metal Installation Guide* to install the product.
- b** When partitioning your disk drives, do not delete the `/vz` partition intact but remove all the other partitions. Create the partitions required for Parallels Server 5 Bare Metal.
- c** Once the installation is complete, restart the server.

**3** Restore the Virtuozzo and Container configuration files you backed up in **Step 1**:

- Restore the `vz` Virtuozzo global configuration file to the `/etc/sysconfig` directory.
- Restore the files `/etc/sysconfig/vz-scripts/*.conf`, `/etc/sysconfig/vz-scripts/*.mount`, and `/etc/sysconfig/vz-scripts/*.umount` to the `/etc/sysconfig/vz-scripts` directory.
- Restore the contents of the `/etc/vz/*` directory to the `/etc/vz` directory.
- Restore the files `/etc/cron.d/venetclean` and `/etc/cron.d/vereboot` to the `/etc/cron.d` directory.

If `/vz` is a directory and you backed up this directory in Step 1, you also need to restore the `/vz` directory.

**4** Drop the quota currently set for Containers, and recalculate it:

```
# for i in $(ls /vz/root) ; do vzquota drop "${i}" ; done
# service vz restart
```

## Upgrading /vz on Network Shares

If your /vz partition is located on a network share, do the following to upgrade your system:

- 1 Open the `/etc/fstab` file on your server and write down the entry containing the information about the /vz partition.
- 2 Install Parallels Server 5 Bare Metal on the server.
- 3 Add the entry you wrote down in Step 1 to the `/etc/fstab` file.

## Upgrading OpenVZ

To perform an in-place upgrade of your OpenVZ system, do the following:

- 1 Prepare for the upgrade using the instructions in **Preparing for the Upgrade** (p. 6).
- 2 Install Parallels Server 5 Bare Metal on the server. Use these guidelines:
  - a Follow the instructions in the *Parallels Server 5 Bare Metal Installation Guide* to install the product.
  - b When partitioning your disk drives, do not delete the /vz partition intact but remove all the other partitions. Create the partitions required for Parallels Server 5 Bare Metal.
  - c Once the installation is complete, restart the server.
- 3 Drop the quota currently set for Containers, and recalculate it:

```
# for i in $(ls /vz/root) ; do vzquota drop "${i}" ; done
# service vz restart
```
- 4 Configure your upgraded system using the instructions in **Performing Post-Upgrade Operations for OpenVZ** (p. 12).

## Performing Post-Upgrade Operations for OpenVZ

Use the guidelines below to configure your system after you complete the steps in **Upgrading OpenVZ** (p. 11).

### Installing Templates

During the upgrade, the SimFS filesystem used by OpenVZ Containers is converted to VZFS used by Containers in Parallels Server 5 Bare Metal. As a result, you cannot use old OS templates on upgraded servers for creating new Containers. To be able to create new Containers, you need first to install OS templates used in Parallels Server 5 Bare Metal and called EZ templates. To install an OS EZ template:

- 1 Execute the `vzup2date -z` command on the server.
- 2 Follow the on-screen instructions. For detailed information on using `vzup2date` to install templates, see the *Parallels Server 5 Bare Metal Templates Management Guide*.

Once you install the OS EZ template, you can create a new Container on its basis using the `--ostemplate` option of the `vzctl create` command. For detailed information on creating Containers, see the **Downloading and Installing EZ Templates with vzup2date** section in the *Parallels Server 5 Bare Metal User's Guide*.

### Upgrading Existing Containers

Upgraded Containers continue using old OS templates after the upgrade. To make existing Containers fully compatible with Parallels Server 5 Bare Metal, you need to install the new EZ OS templates that correspond to the OS templates used by OpenVZ Containers. For example, if a Container was based on the CentOS 5 OpenVZ template, install the CentOS 5 EZ OS template on the server. Once you install an OS EZ template used by a Container, the Container automatically starts using this template instead of the old one.

To download and install OS EZ templates:

- 1 Execute the `vzup2date -z` command on the server.
- 2 Follow the on-screen instructions. For detailed information on using `vzup2date` to install templates, see the *Parallels Server 5 Bare Metal Templates Management Guide*.

Once you install an OS EZ template, you are recommended to run the `vzpkg link CT_ID` command. When executed, this command replaces real files in the Container private area with symlinks to these very files on the server. This can free megabytes of disk space on the server. For more information on using the `vzpkg link` command, see the **Cleaning Up Containers** section in the *Parallels Server 5 Bare Metal User's Guide*.

## Configuring Virtual Ethernet Network Adapters

If any of your Containers were operating in the bridged mode (that is, had one or more virtual Ethernet adapters configured) before the upgrade, you need to re-configure these Containers once the upgrade is complete. To do this:

- 1** Roll back all changes you made when configuring bridge interfaces and virtual Ethernet adapters on the server with OpenVZ. If you do not remember exactly what settings you changed, consult the manual at [http://wiki.openvz.org/VEs\\_and\\_HNs\\_in\\_same\\_subnets](http://wiki.openvz.org/VEs_and_HNs_in_same_subnets).
- 2** Configure the networking on the upgraded server. This includes the following steps:
  - a** Creating one or more Virtual Networks on the server (a counterpart of bridge interfaces in OpenVZ).
  - b** Making virtual network adapters for Containers.
  - c** Adding Containers to the created Virtual Networks.

For detailed information on these steps, see the **Managing Parallels Server Bare Metal Network** chapter in the *Parallels Server 5 Bare Metal User's Guide*.

## CHAPTER 6

# Verifying the Upgrade

Follow these steps to verify that your system has been successfully upgraded to Parallels Server 5 Bare Metal:

- 1** Check that you can log in to the Parallels server using Parallels Virtual Automation and Parallels Management Console.
- 2** Check that all Containers on the Parallels server can be started and stopped (using Parallels Virtual Automation, Parallels Management Console, and command-line utilities).
- 3** Check that you can log in to Containers using Parallels Power Panel.