Parallels

Parallels Virtuozzo Containers 4.6 for Windows

Upgrade Guide

Contents

About This Document

This document describes how to upgrade the following products to Parallels Virtuozzo Containers 4.6:

- Parallels Virtuozzo Containers 4.6 Release Candidate
- Parallels Virtuozzo Containers 4.5
- Parallels Virtuozzo Containers 4.0
- SWsoft Virtuozzo 3.5.1 Service Pack 1

Note: Upgrading Virtuozzo versions earlier than 3.5.1 Service Pack 1 to Parallels Virtuozzo Containers 4.6 is not supported. So, if you are running an earlier version of Virtuozzo (e.g., Virtuozzo 3.5), first upgrade your software to SWsoft Virtuozzo 3.5.1 Service Pack 1, and then proceed with upgrading to Parallels Virtuozzo Containers 4.6.

Upgrade Scenarios

Before beginning the upgrade process, it is important to choose the proper upgrade scenario. Doing so will allow you to avoid many difficulties you may otherwise encounter and will also ensure you are able to successfully solve any problems that may still occur. You can use one of the following scenarios to upgrade your system:

First Scenario

Typically, you shall perform a straightforward upgrade of an existing system. Detailed information on how to upgrade your system using this scenario is provided in the following sections of this document. However, if you have a spare server at your disposal, you might as well consider a second scenario outlined below.

Second Scenario

You have a spare server to perform a new Parallels Containers installation. In this case, follow the steps below:

1 Install Parallels Virtuozzo Containers 4.6 on the spare server. If the license that you own is in the old license format, refer to the Upgrading License Manually section (p. 9) below for a way to upgrade the license to the Parallels Virtuozzo Containers 4.6 format, then use it during a fresh installation.

2 Migrate all Containers from the Hardware Node you want to upgrade to the spare server.

3 If you store the Container (called Virtual Environment in SWsoft Virtuozzo 3.5.1 Service Pack 1) backups on the same Hardware Node, copy the backup folder to the spare server.

4 Check that all the Containers on the spare server can be started and stopped. To do this, use Parallels Virtual Automation, Parallels Management Console, and Parallels Virtuozzo Containers command-line utilities.

5 Reinstall the operating system on the Hardware Node.

6 Install Parallels Virtuozzo Containers 4.6 on the Hardware Node.

7 Migrate the Containers back from the spare server to the Hardware Node, if necessary.

8 Repeat Steps 1 - 7 for each of your Hardware Nodes.

Please consult the *Parallels Virtuozzo Containers 4.6 for Windows User's Guide* and *Parallels Virtuozzo Containers 4.6 for Windows Installation Guide* for detailed information on how to migrate Containers between Hardware Nodes and to perform a clean installation of Parallels Virtuozzo Containers 4.6, respectively.

Upgrade Specifics

When upgrading the Hardware Nodes included in a Virtuozzo Group (called the Virtuozzo cluster in SWsoft Virtuozzo 3.5.1 Service Pack 1), do the following:

1 First upgrade the Parallels Containers Virtuozzo software on all Slave Nodes in the Group.

2 Then proceed with the Master Node upgrade.

Upgrading From SWsoft Virtuozzo 3.5.1 Service Pack 1

Upgrading to Parallels Virtuozzo Containers 4.6 is supported on Hardware Nodes running update VZU35164 or later of SWsoft Virtuozzo 3.5.1 Service Pack 1. You can check the number of the latest Virtuozzo update installed on the Node by doing the following:

1   Open Control Panel.

2   Double-click **Add or Remove Programs**.

3   In the **Add or Remove Programs** window, navigate to the latest Virtuozzo update in the **Currently installed programs** table, and view its version. For example, if you have update VZU35164 installed, it will be shown as `Virtuozzo for Windows 3.5.1 update 35164`.

Although you can upgrade a Node having update VZU35164 or some later Virtuozzo update installed, we recommend that you install the latest available update on the Hardware Node prior to starting the upgrade procedure.

To check for the latest Virtuozzo updates, use the **Virtuozzo for Windows Update** wizard. To invoke the wizard, select **Programs** > **SWsoft** > **Virtuozzo** > **Virtuozzo Update Wizard** on the Windows **Start** menu. For more information on using the **Virtuozzo for Windows Update** wizard, see the *Virtuozzo for Windows User's Guide*.

Preparing for Upgrade

Use the following guidelines to prepare for the upgrade procedure:

1 Carefully read the information given in the **Known Issues and Restrictions** section at the end of this chapter. This will help you avoid possible problems related to the Parallels Virtuozzo Containers upgrade and successfully solve any problems that may appear.

2 Check if the Virtuozzo license currently installed on the Hardware Node can be upgraded to support Parallels Virtuozzo Containers 4.6. The new Parallels Virtuozzo Containers software does not support the old licensing format; so, your license needs to be upgraded to be compatible with Parallels Virtuozzo Containers 4.6. To check if your license is upgradeable, follow the https://register.parallels.com/vz_key_maintenance/ link, enter the license key number and the email that was used when you purchased the license in the fields provided, and click the **Check Maintenance** button. You will then be informed if your license can be automatically upgraded.

   If the license cannot be upgraded automatically, refer to the **Upgrading License Manually** section below to learn how to upgrade your license manually.

3 Obtain the Parallels Virtuozzo Containers 4.6 distribution set. You can do this in one of the following ways:

   ▪ Follow the http://www.parallels.com/download/pvc46/win link, and download the `vzautoinstall` utility. Run this utility to download Parallels Virtuozzo Containers 4.6 to your server and install it there, if necessary.

   ▪ Follow the http://www.parallels.com/download/pvc46/win link, and download the appropriate `zip` archive containing the Parallels Virtuozzo Containers 4.6 installation files to your server.

4 As with any major changes to the hard disk, it is recommended that you:

   ▪ Back up all Containers existing on the Hardware Node.

   ▪ Perform a full backup of the entire Virtuozzo server using a third-party software. For example, you can make use of the Acronis® True Image Echo™ Enterprise Server (a free trial version is available at http://www.acronis.com/enterprise/download/ATIESWin/) 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. To ensure the full backup consistency, all the Containers must be stopped during the backing up.

Upgrading Licenses Manually

Generally, your license is automatically upgraded to support Parallels Virtuozzo Containers 4.6 during the installation if you have a valid SUS (Software Update Service) or Maintenance contract with Parallels (formerly SWsoft). If you do not have such a contract, please contact your sales representative for further information.

If you have a valid SUS or Maintenance contract, but the checking procedure has detected that your license is not upgradeable, use one of the following methods to obtain an upgraded license:

- Follow the https://register.parallels.com/vz_key_upgrade/ link, enter the license key number and the email that was used when you purchased the license in the fields provided, and click the Upgrade button. You will then receive an email containing the new product key for Parallels Virtuozzo Containers 4.6.
- Contact your sales representative, and request a license upgrade.
- If you have access to the KA (Parallels Key Administrator) server, log in to this server, and upgrade your license manually.

You will have to manually enter the upgraded license key when performing the upgrade.

Notes:

1. Even if your license is not upgradeable, you can still upgrade to Parallels Virtuozzo Containers 4.6. However, you will need to install a valid license on the Hardware Node before you can start using the Parallels Virtuozzo Containers software.

2. Detailed information on Parallels Virtuozzo Containers licenses is provided in the Managing Hardware Nodes chapter of the *Parallels Virtuozzo Containers 4.6 for Windows User's Guide*.

Upgrading Virtuozzo Software

You can initiate the upgrade procedure in one of the following ways:

- Using the `vzautoinstall` utility:

    - If you are running `vzautoinstall` in the *Download and install* mode, the upgrade procedure is automatically started after the Parallels Virtuozzo Containers distribution set has been downloaded to the Hardware Node.

    - If you are running `vzautoinstall` in the *Download only* mode, copy the downloaded distribution files to the server where you want to upgrade to Parallels Virtuozzo Containers 4.6, and execute the `containers4.6_<arch>_w2kX.exe` file.
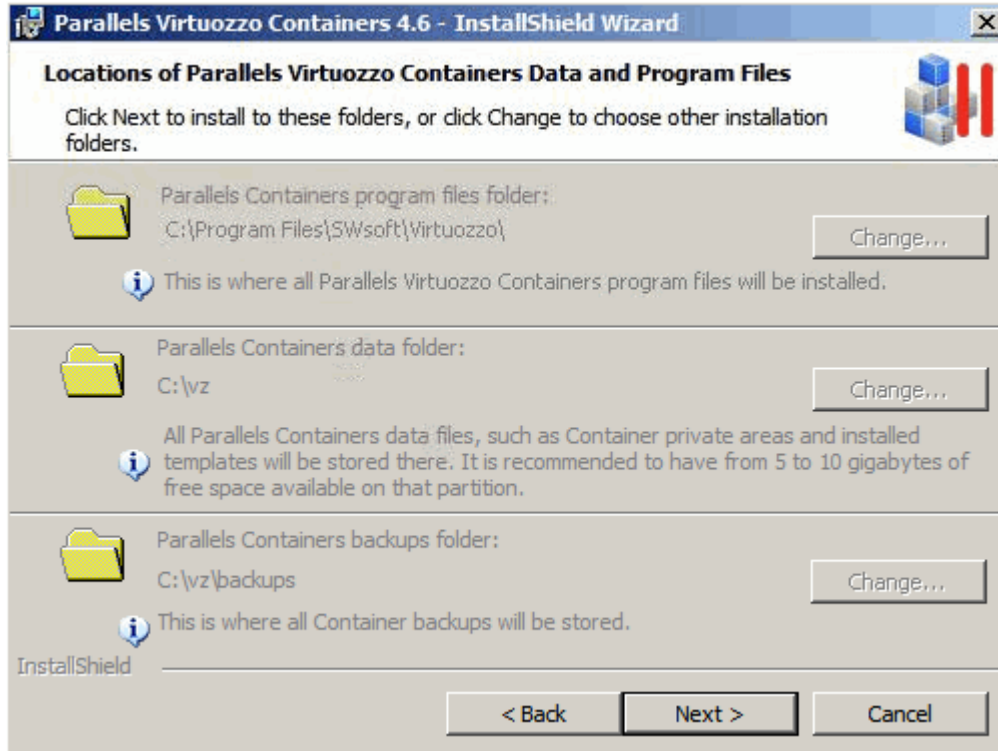
    Detailed information on the `vzautoinstall` utility is provided in the *Parallels Virtuozzo Containers 4.6 for Windows Installation Guide*.

- If you have downloaded a `zip` archive containing the Parallels Virtuozzo Containers 4.6 installation files from the Parallels web site, unzip the archive to a folder on your server, and run the `containers4.6_<arch>_w2kX.exe` file.

Whatever method you choose, you will have to complete the following steps to upgrade to Parallels Virtuozzo Containers 4.6:

1 At the beginning of the process, you will be asked to upgrade the license currently installed on the Hardware Node. Parallels Virtuozzo Containers 4.6 does not support the old licensing format. So, it checks if a valid license is installed on the Node and if the license can be upgraded to support Parallels Virtuozzo Containers 4.6. When deciding on upgrading the license, keep in mind the following:

- You must have an active Internet connection for the license upgrade to complete.

- You can put off the license upgrade and enter the upgraded license later. Please consult the Upgrading License Manually section (p. 9) for information on how to manually upgrade your license.

- If you decline to upgrade the license or the license is not upgradeable, you will be prompted to enter a valid Parallels Virtuozzo Containers 4.6 license at the end of the upgrade procedure.

- Once the license is upgraded, you will not be able to auto-return to the old licensing format. If, however, you decide to downgrade to one of the previous versions of the Parallels Virtuozzo Containers software, please contact the Parallels support team.

2 On the Welcome screen, click Next to proceed with the installation.

3 On the Terms of License Agreement screen, accept the Parallels end user license agreement by selecting the I accept the terms in the license agreement radio button and clicking Next.

4 On the User Information screen, enter the necessary information in the fields provided, and click Next.

5 On the **Locations of Parallels Virtuozzo Containers Data and Program Files** screen, review the location of Parallels Virtuozzo Containers program files and the folders for keeping all Container data and backups.

Click **Next** to proceed with the wizard.

6 On the **Ready to Install the Program** screen, click the **Install** button to start upgrading your software. During the upgrade:

- All Containers on the Hardware Node are stopped for the time needed to upgrade your Virtuozzo installation. Upon the upgrade completion, the corresponding Containers will automatically be started again.

- The old Virtuozzo program files and Virtuozzo tools are removed from the Hardware Node.

- You are asked to restart your system. To do this, click **OK** in the **Virtuozzo upgrade** dialog window. After the system reboot, the installation wizard automatically continues upgrading the Virtuozzo software.

- The Parallels Virtuozzo Containers 4.6 program files and the new Parallels Virtuozzo Containers tools are installed on the Hardware Node.

- You may also be prompted to add additional Windows Server components to your Host operating system. These components represent standard Windows applications and are necessary to provide Containers you will create on the Hardware Node with the corresponding functionality. When adding the components, you will need to provide a path to the Windows Server distribution files.

Note: Please use the same Windows Server distribution kit as the one installed on your Hardware Node.

- Choose the set of Windows Server system services to be launched inside newly created Containers on their start. Please consult the *Parallels Virtuozzo Containers 4.6 for Windows Installation Guide* for detailed information on Windows system services sets.

Verifying the Upgrade

Please report any issues you encounter while working with this RC. We will highly appreciate it if you send us the logs using the "Submit Support Issue" wizard and provide here the Ticket ID that you will receive via e-mail after completing the wizard:

Use the following procedures to verify that your system has been successfully upgraded to Parallels Virtuozzo Containers 4.6:

- Check that your license has been successfully upgraded. You can do this using Parallels Virtual Automation (formerly Virtuozzo Control Center and Parallels Infrastructure Manager), Parallels Management Console (formerly Virtuozzo Management Console), or the vzlicview command-line utility. If the license was not upgraded during the upgrade, see the Upgrading License Manually section (p. 9) to learn how to perform a manual upgrade of your license. After manually upgrading the license, install it on the Hardware Node using one the aforementioned tools.

  Detailed information on managing Parallels Virtuozzo Containers licenses is provided in the Managing Hardware Nodes chapter of the *Parallels Virtuozzo Containers 4.6 for Windows User's Guide*.

- Check that you can log in to the Hardware Node by means of Parallels Virtual Automation and Parallels Management Console.

- Check that all Containers (formerly Virtual Environments) on the Hardware Node can be started and stopped (using Parallels Virtual Automation, Parallels Management Console, and Parallels Virtuozzo Containers command-line utilities).

- Check that you can log in to your Containers using Parallels Power Panel (formerly Virtuozzo Power Panels).

Known Issues and Restrictions

The following issues should be taken into account when upgrading to Parallels Virtuozzo Containers 4.6:

- Parallels Virtuozzo Containers uses a new license format. Make sure that your current license is upgradeable or that you have a new license before starting the upgrade procedure.

- The support for manually managing VE ID pools for all Hardware Nodes included in a Virtuozzo cluster has been dropped. In Parallels Virtuozzo Containers 4.6, Container IDs are automatically allocated within a Virtuozzo Group.

- New `vzabackup/vzarestore` utilities are used in Parallels Virtuozzo Containers 4.6 for managing Container backups. If you are backing up Containers to be restored on Hardware Nodes running Virtuozzo 3.5.1 SP1 or restoring VE backups made with the help of Virtuozzo 3.5.1 SP1, use the `vzbackup/vzrestore` utilities instead.

- It is not possible to renew a backup created with Virtuozzo 3.5.1 SP1 in Parallels Virtual Automation or Parallels Power Panel. As a workaround, perform the deletion of the old backup and the creation of a new one as two separate actions.

- All permissions involving the roles created on 3.5.1 SP1 Hardware Nodes using Virtuozzo Control Center are not kept after upgrading to Parallels Virtuozzo Containers 4.6. So, to continue using these roles on the upgraded Hardware Nodes, you must edit them one by one and reset the needed permissions.

- The passwords of Virtuozzo Control Center users (except for the password of the 'Administrator' user) are not kept after the upgrade to Parallels Virtuozzo Containers 4.6. To continue using the old user names to log in to Parallels Virtual Automation, use the **Forgot your password?** link on the **Login** page.

- The submitted VE requests are not kept in Parallels Virtual Automation after the upgrade to Parallels Virtuozzo Containers 4.6. They should be processed (approved or rejected) before the upgrade.

- The settings related to the *Container requesting* functionality are not kept after the upgrade to Parallels Virtuozzo Containers 4.6. To re-enable this functionality, follow the **Workflow** link under the **Management** group on the Parallels Virtual Automation left menu, and configure the necessary settings on the **Setup** tab of the **Workflow** window.

- The disabled Virtuozzo Control Center users are not kept after the upgrade to Parallels Virtuozzo Containers 4.6. To preserve a VZCC user, make sure that her/his login is enabled before starting the upgrade procedure.

- After upgrading Hardware Nodes running the Virtuozzo 3.5.1 SP1 software and participating in a Virtuozzo cluster (a Virtuozzo Group counterpart) to Parallels Virtuozzo Containers 4.6, their membership in the cluster is not kept. If you want to continue centrally managing your Nodes using Parallels Virtual Automation, you must create a new Group and include all the upgraded Hardware Nodes in this Group.

- You cannot restore individual system files from VE backups created on Hardware Nodes that were running Virtuozzo 3.5.1 SP1 and, afterwards, upgraded to Parallels Virtuozzo Containers 4.6. To restore a system file from such a Container backup, you must restore the Container as a whole.

- Logging in to the Hardware Node via Parallels Management Console and Parallels Virtual Automation with the `vzagent` credentials is not supported after upgrading this Node to Parallels Virtuozzo Containers 4.6. Use the Administrator credentials instead.

- The *Virtuozzo Control Center Users Self-Registration* functionality present in previous versions of the Virtuozzo software and used by new users to self-register in Virtuozzo Control Center and request VEs is no longer supported in Parallels Virtuozzo Containers 4.6. Instead, you can register external user databases in Parallels Virtual Automation and allow any users from the registered databases to request Containers by assigning the Workflow User role to these users.

- Once you upgrade SWsoft Virtuozzo 3.5.1 Service Pack 1 to Parallels Containers 4.6, you can restore Containers from their old backups by doing the following in Parallels Management Console:

  1. Make sure that the Container backup exists and is visible in Parallels Management Console. To do this, expand the Hardware Node name, click the Backup folder, and look for the desired backup in the backup list.

  2. Move the Container whose backup you want to restore by changing its ID and private area path. To do this, expand the Hardware Node name, click the Parallels Containers item, right-click the Container, and choose Tasks > Move Container. Once the backup is successfully restored, you can remove the moved Container, if necessary.

  3. Restore the Container by expanding the Hardware Node name, clicking the Backup folder, right-clicking the respective backup, and choosing Restore Container.

  Restoring Container backups created in Virtuozzo 3.5.1 Service Pack 1 using the Container Manager is not supported.

- After updating Parallels Management Console to the version coming with Parallels Virtuozzo Containers 4.6, you may need to re-register all Hardware Nodes running SWsoft Virtuozzo 3.5.1 Service Pack 1.

Upgrading From Parallels Virtuozzo Containers 4.0, 4.5, and 4.6 Release Candidate

This section provides information on upgrading Parallels Virtuozzo Containers 4.0, 4.5, and 4.6 Release Candidate to Parallels Virtuozzo Containers 4.6 on both standalone Nodes and on Nodes participating in a failover cluster.

Upgrading Standalone Nodes

Parallels Virtuozzo Containers 4.6 was designed to allow for an easy upgrade from Parallels Virtuozzo Containers 4.0, 4.5, and 4.6 Release Candidate. All you have to do to start upgrading your Parallels Virtuozzo Containers installation is execute the `containers4.6_<arch>_w2kX.exe` installation file where `<arch>` denotes the system architecture of the Windows Server operating system under which Parallels Containers is to be run (e.g., `containers4.6_x86_w2k8.exe` to upgrade systems running the 32-bit version of Windows Server 2008).
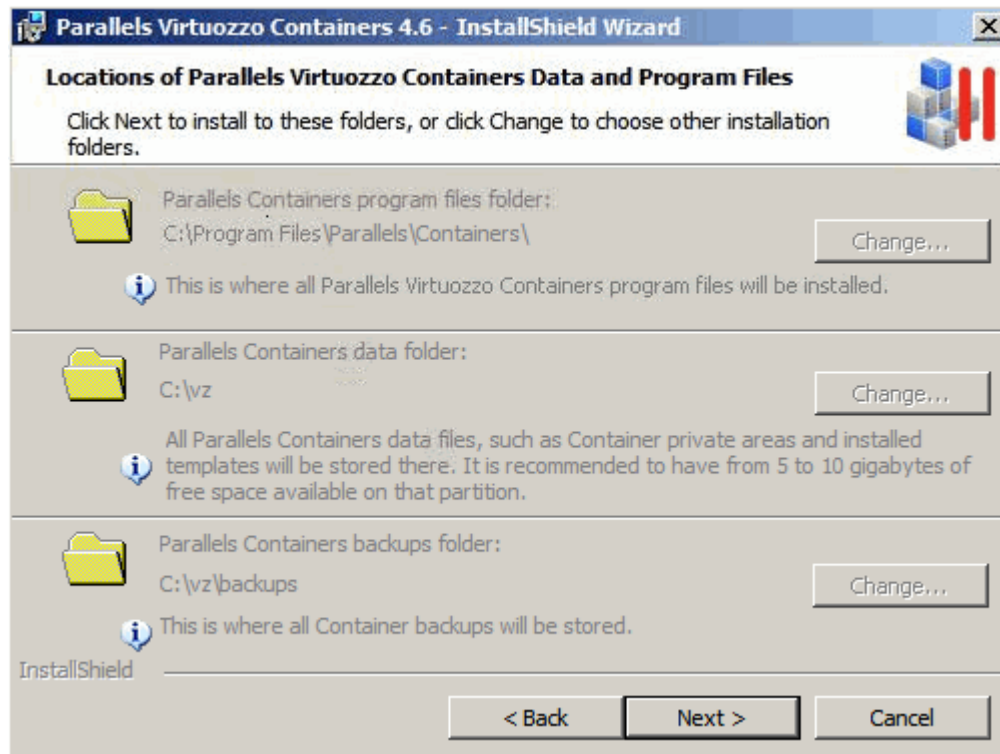
Note: As with any major changes to the hard disk, it is recommended that you back up your system before beginning the upgrade.

During the upgrade, you will have to complete the following steps:

1 On the Welcome screen, click Next to proceed with the installation.

> **Note:** The Welcome screen is skipped if you run the `vzautoinstall` utility in the 'Download and install' mode.

2 On the next screen, accept the Parallels end user license agreement by selecting the I accept the terms in the license agreement radio button and clicking Next.

3 On the User Information screen, enter the necessary information in the fields provided and click Next.

4 On the Locations of Parallels Virtuozzo Containers Data and Program Files screen, you can view the locations of Parallels Virtuozzo Containers program files, Container-related data (private areas, installed templates, logs, and so on), and Container backups. Notice that you are not allowed to modify these locations when performing the upgrade.

During the upgrade, all folders are updated in accordance with the Parallels Virtuozzo Containers 4.6 state. However, no changes will be made to any of your Containers and their backups; so, you will find them in the same state as they were at the upgrade beginning.

5   On the **Ready to Install the Program** screen, click the **Install** button to start upgrading your software. During this procedure:

Note: If you use the `vzautoinstall` utility in the 'Download and install' mode, the **Ready to Install the Program** screen is skipped and the upgrade procedure is initiated after you click the **Install** button in the **Locations of Parallels Virtuozzo Containers Data and Program Files** window.

▪   All Container on the Hardware Node are stopped for the time needed to upgrade your Parallels Virtuozzo Containers installation. Upon the upgrade completion, these Containers will be started again.

▪   The old version of the Parallels Virtuozzo Containers software is removed from the Hardware Node.

▪   You are asked to restart your system. Just click **OK** in the Parallels Virtuozzo Containers upgrade window. After the system reboot, the installation wizard automatically continues upgrading the software. It installs Parallels Virtuozzo Containers 4.6 and upgrade the Windows Server OS templates and the Parallels Virtuozzo Containers tools (Parallels Management Console, Parallels Virtual Automation, and Parallels Power Panel) to their latest versions.

- You may also be prompted to add additional Windows Server components to your Host OS. These components represent standard Windows applications and are necessary to provide Containers you will create on the Hardware Node with the corresponding functionality. When adding the components, you will need you to provide a path to the Windows Server distribution files (either by inserting a CD with the Windows Server distribution kit or by clicking the OK button in the displayed window and specifying the path to the distribution files).
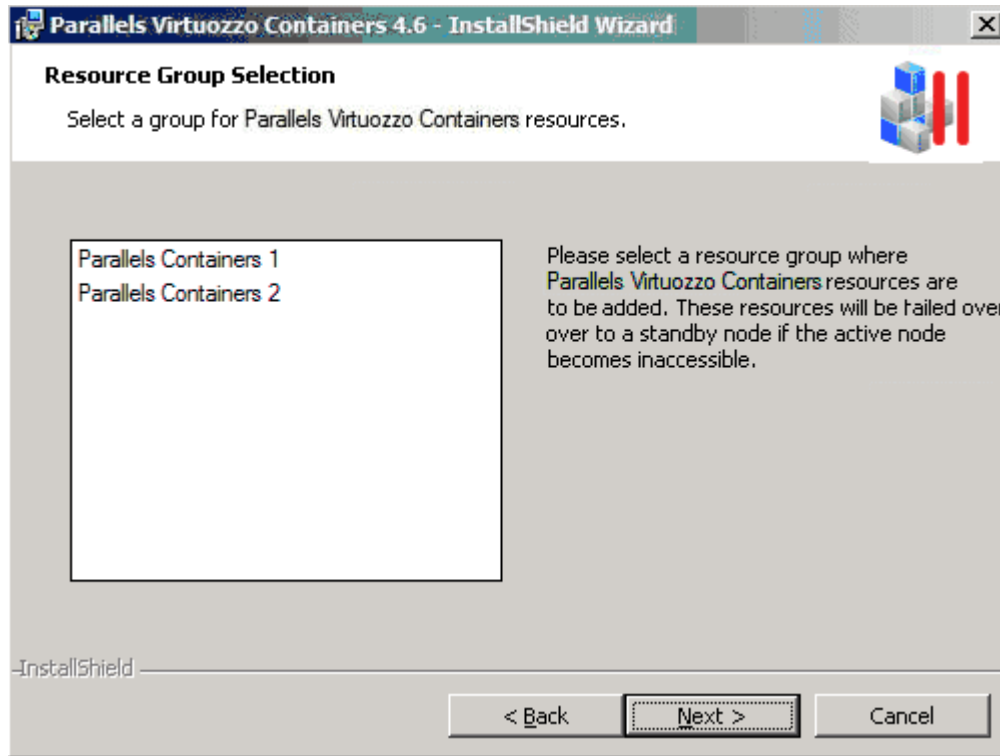
Note: You must use the same Windows Server distribution kit as the one installed on your Hardware Node. You are supposed to choose the set of Windows Server system services to be launched inside newly created Containers on their startup. Please turn to the Installing Parallels Containers Software section for detailed information on Windows system services sets.

- You are asked to upgrade the Parallels Virtuozzo license currently installed on the Hardware Node.

Upgrading Cluster Nodes

The process of upgrading Hardware Nodes running Parallels Virtuozzo Containers 4.0, 4.5, and 4.6 Release Candidate and participating in a failover cluster is similar to that used to upgrade standalone Nodes. However, pay attention to the following when upgrading your failover cluster:

- Before starting the upgrade procedure, make sure that each cluster node hosts only one group with Parallels Virtuozzo Containers resources. If any of your nodes hosts more than one resource group (as it may be the case in an active/active failover cluster), move them to standby nodes in the cluster.
- First upgrade all active nodes in the cluster, and then proceed with upgrading standby nodes.
- When upgrading an active cluster node, select a group with Parallels Virtuozzo Containers resources to upgrade in the Resource Group Selection window.

This window lists all groups that are included in your failover cluster and are not yet upgraded to support Parallels Virtuozzo Containers 4.6. When upgrading nodes, make sure that no groups with Parallels Virtuozzo Containers resources are left un-upgraded after you finish upgrading your last active node in the cluster.

Note: The Resource Group Selection window is not displayed if you are upgrading a standby node.

Rolling Back to a Previous Version

This section describes how to roll back an unsuccessful upgrade from Parallels Virtuozzo Containers 4.6 to Virtuozzo 3.5.1 Service Pack 1, Parallels Virtuozzo Containers 4.0, Parallels Virtuozzo Containers 4.5, or Parallels Virtuozzo Containers 4.6 Release Candidate

If the upgrade operation was unsuccessful, you can use one of the following ways to return the system to its original state:

- If you created a backup of the entire server (e.g., using the Acronis® True Image Echo™ Enterprise Server software) before the upgrade, perform a full system restore by following the instructions given in the corresponding product documentation.
- If you backed up all Containers that existed on the Hardware Node before the upgrade, but did not create a full backup of the server, do the following:
  - Reinstall the Windows Server operating system on the Node.
  - Install the original version of the software on the Node (Virtuozzo 3.5.1 Service Pack 1, Parallels Virtuozzo Containers 4.0, Parallels Virtuozzo Containers 4.5, or Parallels Virtuozzo Containers 4.6 Release Candidate).
  - Restore the Containers from their backups on the Node.

Before you start the rollback operation, use the **Submit Support Issue** wizard to contact the Parallels support team and inform it of the problem you have encountered (to invoke the wizard, click **Programs** > **Parallels** > **Parallels Containers** > **Submit Support Issue** on the Windows **Start** menu, or type `vzreport.exe` in the command line). This wizard automatically collects the necessary Parallels Virtuozzo Containers logs, network, system, and troubleshooting information into a single file and downloads it to the Parallels technical support server. It does not send your private information to Parallels.

If it is impossible to make use of the **Submit Support Issue** wizard, please back up the log files generated during the upgrade procedure and send them to the Parallels support team. Please provide the support team with the following log files:

- All files stored in the `<system_drive>`:\vzlog folder.
- The files located in the `<system_drive>`:\Windows folder, having the .log extension, and created or modified during the upgrade (you can sort out these files by clicking the **Date Modified** column in the `<system_drive>`:\Windows folder).

Getting Technical Support

If you experience any problems related to upgrading your software to Parallels Virtuozzo Containers 4.6, do the following:

- If you have a Customer Relationship manager or a dedicated support engineer assigned to your company, please feel free to contact them for any questions related to the Parallels Virtuozzo Containers 4.6 upgrade.

- In all other cases, use one of the following ways to get technical support from Parallels (available 24/7 via email and phone):

  - Open a support ticket by filling in a special support form at https://www.parallels.com/en/support/virtuozzo/request/ or submitting a support request by means of the Submit Support Issue wizard (to invoke the wizard, click Start > Programs > Parallels > Parallels Containers > Submit Support Issue). You can then use the Parallels Support RT self-service interface available at https://support.parallels.com to open and track your ticket.

  - If your support plan includes phone assistance, call 866.248.8906 (toll-free for US and Canada customers) or +1.703.286.2196 (internationally).

Problem Escalation

We make every effort to ensure that your problems are processed quickly and effectively. If, however, there are delays in processing your ticket past the time period that is stated in your support contract, you can escalate the problem by opening the http://kb.parallels.com/en/5850 page and using the instructions provided on this page.