

Parallels Virtuozzo Containers 4.0 for Windows

Release Notes

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This document describes the new features of this release and important changes since the previous one.

TABLE OF CONTENTS

- 1. About This Release**
 - 2. New Features and Improvements**
 - 3. Bugs Fixed**
 - 4. Compatibility Issues**
 - 5. Known Issues and Restrictions**
 - 6. Troubleshooting**
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1. ABOUT THIS RELEASE

Parallels Virtuozzo 4.0 for Windows has a host of major new features and improvements in comparison with version 3.5.1, which makes it a true next-generation virtualization solution suitable for large-scope enterprise deployments.

In this version, the product has changed its name from Virtuozzo for Windows to Parallels Virtuozzo Containers for Windows. As part of the product renaming, some of its components have also been renamed. These are the following Virtuozzo Containers components:

- Virtual Environments (VEs) have been renamed to Containers;
 - Virtuozzo Management Console (VZMC) has been renamed to Parallels Management Console;
 - Virtuozzo Control Center (VZCC) has been renamed to Parallels Infrastructure Manager;
 - Virtuozzo Power Panels (VZPP) has been renamed to Parallels Power Panel;
 - the Virtuozzo Agent (VZAgent) software has been renamed to the Parallels Agent software.
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2. NEW FEATURES AND IMPROVEMENTS

- Parallels Virtuozzo Containers 4.0 supports the MSCS (Microsoft Cluster Server) clustering technology allowing you to provide greater availability for your applications and services, including the Virtuozzo Containers software itself.
- Now you can use any convenient Container name for the management purposes. Additionally, some notes or a description may easily be attached to a Container. This makes Virtuozzo Containers management much easier and more user-friendly.

- Virtuozzo Containers 4.0 supports the SNMP (Simple Network Management Protocol) protocol allowing you to monitor the network and system resources on the Hardware Node and inside its Containers by means of standard SNMP applications.
- A number of Container backup enhancements have been introduced in Virtuozzo Containers 4.0 including storing Container backups on Linux platforms, scheduling the Container backup time, performing differential Container backups, excluding files and folders from the Container backup, etc.
- The p2v migration from physical servers running the Windows Server 2000 operating system is now supported.
- A well-balanced rights assignment and user authentication and authorization strategy has been implemented in Virtuozzo Containers 4.0. This strategy enables you to grant the rights to users (including the users registered in Active Directory databases) for performing certain operations in the Hardware Node and Container contexts.
- Container Ethernet (packet switching based) network adapters can now be managed by means of Parallels Management Console and Parallels Infrastructure Manager.
- Virtuozzo Containers 4.0 has a new licensing scheme implemented. Now you need only one Virtuozzo Server license to be installed on the Hardware Node to start managing it by means of Parallels Infrastructure Manager, Parallels Power Panel, and Parallels Management Console.
- The traffic accounting and traffic shaping features have been introduced in Virtuozzo Containers 4.0.
- The Virtuozzo hierarchical scheduler has been improved. Now it enables you to:
 - configure the minimal guaranteed share of the CPU time the given Container is guaranteed to receive;
 - set the CPU time limit the given Container is not allowed to exceed.
- System administrators can now configure the number of virtual CPUs which will be available inside a particular Container, up to the number of physical CPUs installed on the Node. The Container will see only the specified CPU(s) for licensing and intuitive power management purposes.
- The 'Container reinstall' functionality allowing you to easily reinstall a broken Container is now supported.
- The list of supported versions of Windows Server 2003 has been enhanced. Now the Virtuozzo Containers software can be installed on the following versions of Windows Server 2003:
 - * *32-bit versions of Windows Server 2003:*
 - Standard or Enterprise Edition of Windows Server 2003 Service Pack 1 with or without R2: US English, German, French, Korean, Spanish, Traditional Chinese, Simplified Chinese, or Japanese;
 - Standard or Enterprise Edition of Windows Server 2003 Service Pack 2 with or without R2: US English, German, French, Italian, Korean, Spanish, Traditional Chinese, Simplified Chinese, or Japanese;

- Datacenter Edition of Windows Server 2003 Service Pack 1 with or without R2 (US English);
 - Datacenter Edition of Windows Server 2003 Service Pack 2 with or without R2 (US English);
- * x86-64-bit versions of Windows Server 2003:*
- Standard or Enterprise Edition of Windows Server 2003 x64 Service Pack 1 with or without R2 (US English or Japanese);
 - Standard or Enterprise Edition of Windows Server 2003 x64 Service Pack 2 with or without R2 (US English or Japanese);
 - Datacenter Edition of Windows Server 2003 x64 Datacenter Edition Service Pack 1 with or without R2 (US English);
 - Datacenter Edition of Windows Server 2003 x64 Datacenter Edition Service Pack 2 with or without R2 (US English);
 - Datacenter Edition of Windows Server 2003 x64 with Service Pack 2 (Japanese);
- * IA64-bit versions of Windows Server 2003:*
- Standard or Enterprise Edition of Windows Server 2003 IA64 with Service Pack 2 (US English, German, or Japanese).
- The Parallels Infrastructure Manager and Parallels Power Panel interfaces have been completely redesigned to introduce a more intuitive approach to managing Hardware Nodes and their Containers.
 - All groups of Virtuozzo objects (Containers, templates, configuration samples, backups, etc.) can now be centrally managed by Parallels Infrastructure Manager for all Hardware Nodes united in a Virtuozzo Group.
 - The list of antiviruses that have been thoroughly tested with Virtuozzo Containers 4.0 is widely extended and now includes:
 - Symantec AntiVirus 10.1.5;
 - McAfee VirusScan 8.5i;
 - AVG 7.1, 7.5;
 - F-Secure 5.52, 7;
 - CA e-Trust r8, r8.1;
 - Kaspersky 6.0.2, 6.0.3;
 - Trend Micro OfficeScan 8.0.
 Chances are that you will also be able to use other antiviruses on your servers, but Virtuozzo Containers 4.0 has not been extensively tested with them.

3. BUGS FIXED

Many bugs from the previous release have been fixed in Virtuozzo Containers 4.0. Here is a small sample of them:

- The Virtuozzo Containers installation fails if the Windows Server 2003 operating system is installed in the folder other than `C:\WINDOWS`.
- A Microsoft Virtual PC cannot be migrated to a Container using the `vzp2v` utility.
- Container drives cannot be mounted from external servers using the `net use` command.

- The 'DNS server' property cannot be set for stopped Containers.
- It is impossible to connect to Containers based on the 'Oracle' configuration sample via RDP.
- The network settings modified from inside a Container are not saved in the Container configuration file and reset to the old values on the next Container start-up.
- The migration of a physical server to a Container on the Hardware Node may fail if the physical server has the Cygwin application installed.
- The backup process might occasionally fail to create a Container snapshot in the case of a heavy memory pools fragmentation on large Container disk images.
- Task Manager inside a Container shows incorrect information on the Container memory consumption.

All these bugs together with many others have been fixed in Virtuozzo Containers 4.0.

4. COMPATIBILITY ISSUES

- Parallels Virtuozzo Containers 4.0 uses a new license format. Please make sure that you have a new Virtuozzo Server license before starting the upgrade procedure.
- To use Virtuozzo Management Console 3.5.1 for managing Hardware Nodes running the Virtuozzo Containers 4.0 software, you should enable a special compatibility mode on these Nodes. To this effect, set an arbitrary password for the *vzagent0* user by running the following command in the *cmd.exe* command line interpreter on each Node:

```
C:\...\Administrator> vzctl exec 1 net user vzagent0 "asd123wr" /active:yes
```

where "asd123wr" is an arbitrary password of the *vzagent0* user. After that, you can use the *vzagent0* credentials to log in to your 4.0 Hardware Nodes via Virtuozzo Management Console.

- To use Parallels Management Console 4.0 for managing Hardware Nodes running Virtuozzo Containers 3.5.1, you should have a valid Management Console license installed on your local computer (i.e. on the computer where you are running Management Console). You can use any of your old Management Console 3.x licenses for this purpose. To install a Management Console license, click **Help** on the Management Console main menu, select **Enter License Data**, and enter the appropriate license key in the displayed window.
- New *vzabackup/vzarestore* utilities are introduced in Virtuozzo Containers 4.0 for managing Container backups. If you are backing up Containers to be restored on Hardware Nodes running Virtuozzo 3.5.1 or restoring Container backups made with the help of Virtuozzo 3.5.1, use the *vzbackup/vzrestore* utilities instead.
- The support for manual managing Container ID pools of all Hardware Nodes included in a Virtuozzo cluster has been dropped. In Virtuozzo Containers 4.0, Container IDs are automatically allocated within a Virtuozzo Group.

- Requesting a new Virtuozzo Server license via Parallels Management Console, Parallels Infrastructure Manager, or the *vzlicreq* utility is not supported any more in Virtuozzo Containers 4.0. Now you can use one of the following ways to obtain a new Virtuozzo Server license:
 - fill up a special registration form on the Parallels web site (available at <http://www.parallels.com/download/pvc46>) and get a free evaluation license;
 - contact a Parallels sales representative.
- To restore a Container residing on a Hardware Node running Virtuozzo Containers 4.0 from its backup stored on a 3.5.1 Hardware Node in Parallels Management Console, you should invoke the **Restore Container** wizard for the Node where the Container backup is located, i.e. for the 3.5.1 Node.

5. KNOWN ISSUES AND RESTRICTIONS

A list of known issues for Virtuozzo 4.0 for Windows is given below.

- Setup:
 - * Virtuozzo Containers 4.0 does not function if the Virtuozzo Containers data directory (C:\vz, by default) is located on a network drive.
 - * Virtuozzo Containers 4.0 does not function if the Virtuozzo Containers data directory (C:\vz, by default) is a mount point, i.e. an external disk partition or network drive is mounted to this directory.
 - * Due to the absence of the MSDE and ADAM applications for IA64-bit processors, the Virtuozzo Containers installation uses the MSDE and ADAM applications installed on a remote Hardware Node (either 32-bit or x86-64-bit). So, to complete the Virtuozzo Containers installation on a Hardware Node running the IA64-bit version of Windows Server 2003, you should additionally perform the following operations:
 - Prepare a Hardware Node running either the 32-bit version or the x86-64-bit version of the Virtuozzo Containers 4.0 software (you can use any of your existing Nodes for this purpose, if you already have any). Make sure that the Service Container has only one public IP address assigned to it and that this IP address can be accessed from the IA64-bit Node; otherwise, recreate the Service Container by completing the following tasks on the Node:
 - a) Invoke the **Virtuozzo Tools Configuration Wizard** by selecting **Programs --> Parallels --> Virtuozzo Tools --> Virtuozzo Tools Configuration Wizard** on the Windows **Start** menu.
 - b) In the **Welcome** window, click **Next**.
 - c) In the **Service Container Creation** window:
 - * clear the **Skip this step** check box and select the **Enable API compatibility with Virtuozzo 3.x** check box;
 - * specify a public IP address to be assigned to the Service Container in the **Specify Container IP address** field;
 - * enter an arbitrary password in the **vzagent0 password** field and reenter the password in the **Confirm password** field;
 - * click **Next**.

d) After the Service Container has been successfully recreated, click **Finish** to exit the wizard.

➤ Create the Service Container on the IA64-bit Hardware Node:

a) On the IA64-bit Node, launch the **Virtuozzo Tools Configuration Wizard** by selecting **Programs --> Parallels --> Virtuozzo Tools --> Virtuozzo Tools Configuration Wizard** on the Windows **Start** menu.

b) In the **Welcome to...** window, click **Next**.

c) In the displayed window, click **Next**.

d) In the **Service Container Creation** window, specify the IP address assigned to the prepared Node in the **Node address** field and provide the Administrator credentials of this Node in the **Node administrator** and **Administrator's password** fields. When you are ready, click **Next** to start creating the Service Container.

e) After the Service Container has been successfully created, click **Finish** to exit the wizard.

* The setup program cannot uninstall Virtuozzo if any Container is running.

- General:

* All Hardware Nodes included in a Virtuozzo Group should have the system time synchronized. Otherwise, some Parallels Infrastructure Manager functions (e.g. viewing logs, viewing top resource-using Containers, managing licenses) might work incorrectly.

* Due to multiple considerations, you are not recommended to have more than 1000 Containers hosted on all Hardware Nodes included in a Virtuozzo Group.

* There is a small propagation delay (up to 60 seconds) needed for the permissions included in a new role created on a Slave Node in the Virtuozzo Group to come into effect. During this time, you may not be able to make use of the role permissions to the full extent.

* Backups of Containers residing on Slave Nodes in a Virtuozzo Group are not shown in Parallels Power Panel if they are stored not locally, i.e. on a Node other than that where the corresponding Containers are hosted.

* The *vzsveaddress* hostname is reserved for internal Virtuozzo Containers purposes and cannot be used as a hostname for your regular Containers.

* You must restart the Hardware Node after installing the Symantec AntiVirus 10.1.5 application on it to enable the antivirus protection inside Containers residing on this Node.

* The process of uploading and installing large Virtuozzo templates (more than 1Gb) via Parallels Infrastructure Manager may work unstable. In this case you can manually copy these templates to your Node and install them there using the *vzpkgdeploy* utility.

* The functionality of uploading files and folders from your local computer to Hardware Nodes and their Containers in Parallels Infrastructure Manager and Parallels Power Panel is not supported in the Safari Web browser.

* A local VUS (Virtuozzo Update Services) server must have the primary DNS suffix set; otherwise, you may experience problems with downloading Virtuozzo Containers software

updates from the VUS server to your Hardware Nodes. To set the primary DNS suffix for your local VUS server, perform the following operations:

1. Double-click System in Control Panel.
2. Select the **Computer Name** tab.
3. Click **Change** and, in the **Computer Name Changes** window, click **More**.
4. In the **DNS Suffix and NetBIOS Computer Name** field of the displayed window, specify the DNS suffix to be appended to the name of your VUS server.
5. Click **OK** three times.
6. Restart the VUS server for the changes to take effect.

* If you are deploying Virtuozzo Containers 4.0 in a VMware ESX Server environment, you should perform the following operations to make your Containers operating in the 'bridged' mode accessible from external servers:

- Make sure that the value of the **Promiscuous Mode** field on the **Security** tab of the **vSwitch Properties** window is set to *Accept*.
- Ensure that the ESX Server adapter always has one and the same MAC address assigned.

* Parallels Management Console 4.0 uses a light-weight ssh client based on the *plink* utility to connect to Hardware Nodes running SWsoft Virtuozzo 3.5.1. Sometimes, this client may fail to upload large OS (operating system) and application templates to such Hardware Nodes or large binary files to Containers residing on such Nodes. If you experience this problem, replace the light-weight client with your own one (e.g. with the *cygwin* ssh client). To this effect:

- back up the original *ssh.exe* file located in the *X:\<PMC_INST_FOLDER>\ssh* folder on your Node where *<PMC_INST_FOLDER>* is the path to the Parallels Management Console program files (by default, this path is *C:\Program Files\SWsoft\Parallels Management Console 4.0*) and
- copy the executable files of your new ssh client to this folder.

* Virtuozzo Management Console 3.5.1 does not allow you to configure the periodicity of refreshing the resources consumption information in the logs for Hardware Nodes running Virtuozzo Containers 4.0.

* Virtuozzo Management Console 3.5.1 cannot be used for managing the Parallels Agent configuration parameters on Hardware Nodes running Virtuozzo Containers 4.0.

* Virtuozzo Management Console 3.5.1 cannot be used to browse the backup contents of Containers residing on Hardware Nodes running the Virtuozzo Containers 4.0 software and to restore separate files and folders from such backups.

* Parallels Management Console 4.0 cannot be used to restore separate files and folders from backups of those Containers that reside on Hardware Nodes running the Virtuozzo 3.5.1 software.

6. TROUBLESHOOTING

To contact the Parallels support team and inform it of the problem you encounter, use the **Submit Support Issue Wizard** that can be accessed by selecting **Programs --> Parallels --> Parallels Virtuozzo Containers --> Submit Support Issue** on the Windows **Start** menu or typing "vzreport.exe" in the command line.

The **Submit Support Issue Wizard** collects the logs, network, system, and troubleshooting information into a single zip file and downloads it automatically to the Parallels technical support FTP server (if accessible) or stores it in the *X:\vz\reports* folder on your Node (where *X:\vz* stands for the Virtuozzo data folder) to be sent to Parallels later. It DOES NOT send your private information to Parallels!

Please provide your first and last name, company name, e-mail, subject and detailed problem description on the "Description" page of the **Submit Support Issue Wizard**. Otherwise, we will not be able to process your call.

To grant the Parallels technical support access to your Node through a VPN, if necessary, use a special wizard by selecting **Programs --> Parallels --> Parallels Virtuozzo Containers --> Virtuozzo Support Tunnel** on the Windows **Start** menu.