
Parallels Software International, Inc.

Parallels Compressor

User Guide

Server



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Contents

Introduction	4
About Parallels Compressor Server	4
Editions of Parallels Compressor	4
Benefits of Using Parallels Compressor	5
Terms of Use.....	6
Installing Parallels Compressor	7
System Requirements	7
Supported Virtual Platforms	8
Requirements for Host OS.....	9
Requirements for Guest OS	10
Downloading the Parallels Compressor.....	11
Installing Parallels Compressor in Host OS.....	11
Installing in Host Windows OS	11
Installing in Host Linux OS	13
Installing Parallels Compressor in Guest OS	14
Activating Parallels Compressor.....	16
Getting an Activation Key	16
Activating in Host Windows OS	17
Activating in Host Linux OS	18
Activating in Guest Windows OS.....	19
Updating Parallels Compressor.....	21
Uninstalling Parallels Compressor in Windows	21
Uninstalling Parallels Compressor in Linux	22
How to Run Parallels Compressor	23
When installed in Host OS.....	23
Connecting Compressor ISO Image File.....	24
When installed in Guest OS.....	26
Compressor Command-Line Keys	27
Parallels Compressor Wizard.....	28
Compression in Automatic Mode	34
Options of Compressing	38
Limitations of Virtual Machine Compression	39
Running Modes.....	40
Express and Advanced Modes	41
Compression Levels.....	42
Further Reducing the Disk.....	43
Index	44

Introduction

This Chapter describes the product, its scope of application and the terms of its use.

In This Chapter

About Parallels Compressor Server	4
Editions of Parallels Compressor	4
Benefits of Using Parallels Compressor	5
Terms of Use	6

About Parallels Compressor Server

Parallels® Compressor® Server is a new, easy-to-use Parallels tool which will help you keep your virtual machines efficient.

Parallels Compressor allows users to:

- effectively clean up disk space in a virtual machine
- significantly reduce the size of virtual hard disks
- efficiently use real hard disk resources
- easily share smaller virtual disks by burning them to CD/DVDs or moving them over a network.

Parallels Compressor can be used on virtual machines from different vendors, such as Parallels, VMware, and Microsoft.

Editions of Parallels Compressor

Parallels Compressor is available in two editions:

- **Parallels® Compressor® Server.** This powerful tool for compressing virtual machines runs on both server and workstation versions of supported host and guest operating systems and runs on all virtual platforms, including server editions.
- **Parallels® Compressor® Workstation.** This edition of the tool is intended only for workstation versions of host and guest operating systems and runs only on workstation editions of virtual platforms.

Benefits of Using Parallels Compressor

Reducing the size of virtual machine is a very important problem for virtual machines users.

The introduction of expanding format for virtual disks was the first step in this direction. An expanding disk is quite size efficient at the beginning of a virtual machine's life cycle but becomes less and less so as time goes on. This happens because each time writing to the disk is requested, the system allocates new space, and therefore the disk size increases. Deleting files does not reduce the size of a virtual disk image file in the host (primary) operating system. Eventually, an expanding virtual disk could grow enormously large causing a number of inconveniences.

All virtual machine vendors know that such problems exist and offer built-in disk compacting tools to solve them. But as a rule, these tools are only effective if a preliminary cleaning of temporary and unused files as well as virtual disk defragmenting have been performed.

Parallels Compressor is designed to perform the efficient compression of virtual machines, including the compacting of virtual disks that can significantly increase the ratio of useful data in your virtual machine. The procedure consists of two steps:

- a preparatory step performed in the guest operating system (deleting of temporary and unnecessary files, cleaning up of unused disk space);
- a shrinking/compacting step (reducing of the size of virtual disk) performed in the host (primary) operating system. This operation is performed for VMware and Parallels virtual machines; as for Microsoft Virtual PCs, Parallels Compressor only recommends to use Microsoft Virtual Disk Wizard to compact virtual disk.

Compressor can be installed in the host operating system and directly in your virtual machine; it can be run in automatic mode and as a wizard.

Let us consider several typical scenarios when Compressor proves to be an indispensable tool for virtual machines compressing.

Installation in virtual machine

You use the same virtual machine with an expanding disk for a long period of time, for example, for testing successive builds of a new software. Software installations and uninstallations performed multiple times, result in a very large virtual disk.

Run Compressor periodically in such virtual machine to delete unnecessary files, clean up unused space and reduce the size of disk by the size of unused space. Each time you run Compressor you can customize the process of virtual machine compression: choose a desired level of compression and even particular tasks suggested for that level. Or you can run Compressor in express compression mode, when the default options will be used.

Installation on host computer

You maintain a number of virtual servers running on an enterprise-level real server. The more virtual servers are in use, the more they grow in size. With Compressor installed in the host (primary) operating system, you can write a script which would process all of the servers in the following way:

- attaches an ISO image file of Compressor as a CD image to a virtual server;
- compresses this virtual server's disk automatically without prompting you for operations confirmation;
- disconnects an ISO image and switches to the next virtual server.

The compressing of disks for all servers is performed automatically with the default options used for the process.

Terms of Use

Parallels Compressor Server is a product of Parallels Software International, Inc.

The fully functional version of Parallels Compressor Server is available for download at the Parallels Download Center (<http://www.parallels.com/en/download>). To use Parallels Compressor you need to activate it with an activation key. You can get an activation key for Parallels Compressor in one of the following ways:

- pay online at the Parallels Buy Online (<http://www.parallels.com/en/buyonline>) and receive a permanent activation key by email.
- register at the Parallels Download Center (<http://www.parallels.com/en/download>) and get a temporary activation key for the trial period. To continue using Parallels Compressor beyond your trial period you must buy a permanent activation key.

The product is licensed per computer. You can use Parallels Compressor Server on all virtual machines running on your computer. Please read the Parallels Compressor EULA for more detailed information.

Installing Parallels Compressor

This Chapter contains all the information you need to install, activate, update and uninstall Parallels Compressor Server.

In This Chapter

System Requirements.....	7
Downloading the Parallels Compressor.....	11
Installing Parallels Compressor in Host OS.....	11
Installing Parallels Compressor in Guest OS.....	14
Activating Parallels Compressor.....	16
Updating Parallels Compressor.....	21
Uninstalling Parallels Compressor in Windows.....	21
Uninstalling Parallels Compressor in Linux.....	22

System Requirements

Parallels Compressor Server does not impose any requirements for computer hardware.

Although Parallels Compressor is designed to operate inside a virtual machine, it can be installed in the host (primary) operating system. For the remainder of this Guide we will refer to the operating system installed on a real computer as the *host* or *host (primary)* operating system.

Software installed on your computer should meet certain requirements for running Compressor. Before you install the product, please check that:

- your virtual machine is of a supported type,
- the operating system installed on your computer meets the requirements for host (primary) operating systems,
- the operating system installed in the virtual machine meets the requirements for guest operating systems.

Note. Please check that your virtual machine supports particular host and guest operating systems.

CHAPTER 3

Supported Virtual Platforms

Parallels Compressor Server can be run in virtual machines of the following virtual platforms:

- Parallels Workstation
- VMware Workstation
- VMware GSX server
- Microsoft Virtual PC
- Microsoft Virtual Server

Requirements for Host OS

To use Parallels Compressor Server in your virtual machine you should have one of these host (primary) operating systems:

Windows Host Operating Systems (32-Bit)

- Windows Server 2003 Standard Edition SP0, SP1
- Windows Server 2003 Enterprise Edition SP0, SP1
- Windows Server 2003 Web Edition SP0, SP1
- Windows XP Professional SP2
- Windows XP Home Edition SP2
- Windows 2000 Professional SP4
- Windows 2000 Server SP4
- Windows 2000 Advanced Server SP4

Windows Host Operating Systems (64-Bit)

- Windows Server 2003 x64 Edition SP1
- Windows XP Professional x64 Edition SP1

Linux Host Operating Systems (32-bit):

- Red Hat Enterprise Linux WS4
- Red Hat Enterprise Linux AS4
- Red Hat Enterprise Linux WS3
- Red Hat Enterprise Linux ES4
- Red Hat Enterprise Linux ES3
- Red Hat Linux 9
- Red Hat Linux 8
- Red Hat Linux 7.3
- Debian Linux 3.1
- Fedora Core Linux 4
- Fedora Core Linux 3
- SUSE Linux 10
- SUSE Linux 9.3
- SUSE Linux 9.2
- SUSE Linux 9.1
- SUSE Linux 9.0
- Mandriva Linux 10.1
- Mandriva Linux 10
- Mandriva Linux 9.2

Linux Host Operating Systems (64-Bit)

- Red Hat Enterprise Linux 4
- Red Hat Enterprise Linux 3
- SUSE Linux 10
- SUSE Linux Enterprise Server 9
- SUSE Linux Pro 9.3
- SUSE Linux Pro 9.2
- SUSE Linux Pro 9.1

Requirements for Guest OS

The current version of Parallels Compressor Server uses specifics of Microsoft Windows operating systems. To run Parallels Compressor in your virtual machine you should have one of the following guest operating systems:

Windows Guest Operating Systems (32-Bit)

- Windows Server 2003 Standard Edition SP0, SP1
- Windows Server 2003 Enterprise Edition SP0, SP1
- Windows Server 2003 Web Edition SP0, SP1
- Windows Server 2003 Small Business Edition SP0, SP1
- Windows XP Professional Edition SP2
- Windows XP Home Edition SP2
- Windows 2000 Professional SP4
- Windows 2000 Server SP4
- Windows 2000 Advanced Server SP4

Windows Guest Operating Systems (64-Bit)

- Windows Server 2003 x64 Edition SP1
- Windows XP Professional x64 Edition SP1

Downloading the Parallels Compressor

Parallels Compressor can be installed either in host (primary) or in guest operating systems. Several packages are available for download at the Parallels Download Center <http://www.parallels.com/en/download/>. You have to download the correct package that fits your needs.

For installation in guest operating system

- `Parallels-Cps-Srv-XXXX-Win.exe` for installation in virtual machine regardless of what host (primary) operating system you have. Check that your guest operating system is supported.

For installation in host (primary) operating system

- `Parallels-Cps-Srv-XXXX-Win.exe` for all supported Microsoft Windows host (primary) operating systems;
- the following files are for Linux operating systems:
 - `Parallels-cps-srv-XXXX-lin.i386.rpm`
 - `Parallels-cps-srv-XXXX-lin.tgz`
 - `Parallels-cps-srv-XXXX-lin.deb`

Choose the package which is supported by your Linux host (primary) operating system.

Before you download the selected file please read the Terms of Use (page 6).

Installing Parallels Compressor in Host OS

To install Compressor in the host (primary) operating system choose an installation package from the list of available downloads, depending on what host (primary) operating system is installed on your computer.

Installing in Host Windows OS

Note. You must have power user or administrator rights to install the program in the Windows operating systems.

To install Parallels Compressor:

- 1 Run the `Parallels-Cps-Srv-XXXX-Win.exe` file.
- 2 Installation wizard starts and displays the **Welcome** dialog box. Click **Next** to continue.

- 3 The License agreement. Read the license agreement. Click **I accept the agreement** and then **Next** or click the **Cancel** button to exit the wizard.
- 4 **Product activation**. Input the customer information: your name and the name of company you work for (these fields are optional).
You can choose one of the following options:
 - input your activation key. Click **Next**;
 - buy a permanent activation key. The **Buy** button redirects you to the Parallels Buy Online Page (<http://www.parallels.com/en/buyonline>);
 - get a temporary activation key by clicking the **Register at site** button which redirects to the Parallels Download Center (<http://www.parallels.com/en/download>);
 - skip the activation by clicking the **Activate later** button.
- 5 Select where to place the program shortcuts:
 - on the Desktop
 - on the **Start** menu
 - on the **Quick Launch** menu
- 6 Click **Next**.
- 7 **Location for Parallels Compressor**. Select a location for the program. The default folder is:
`C:\Program Files\Parallels\Parallels Compressor.`
Click **Change** to specify the location different from the default. Click **Next**.
- 8 The wizard is ready to install the program. Click **Install**.
- 9 When the installation is completed, select the **Open folder with new installation** check box to view the Parallels Compressor files and click **Finish**.

In the process of installation, the following files are placed to the specified Parallels Compressor folder:

- `ParallelsCompressor.iso`
- `Parallels Compressor User Guide.pdf`
- `ParallelsCompressor.chm`
- `CpsLicense.exe`
- `Readme.txt`
- `EULA.txt`

Known issues

When you install Parallels Compressor on Windows XP or Windows Server 2003 the following error may occur: `Error Code: -5006 : 0x80004005`.

- 1 Close all applications and exit all other setups.
- 2 Launch Parallels Compressor setup once again.

If the error still appears, try the the following steps:

- 1 From the **Start** menu, choose **Control Panel -->Add / Remove Programs**.
- 2 On the left panel select **Add New Programs**.

- 3 Click the CD or Floppy button.
- 4 The Install Program from Floppy or CD dialog box appears, click Next.
- 5 System searches your Floppy and CD drives, then displays the Run Installation Program dialog box.
- 6 Click Browse and locate the Parallels Compressor installation file.
- 7 Click Next and the installation will begin.

Most likely, the program will be installed successfully after these steps.

Installing in Host Linux OS

Depending on what file types your Linux system supports, download one of the following packages: RPM, DEB or TGZ archive.

Note. To install Parallels Compressor on a Linux computer, you need `root` privileges.

To install Compressor in host (primary) operating system follow the steps below:

- 1 Launch the Terminal program.

- 2 Run the

```
su
```

command to gain `root` privileges. Enter the password to the `root` account when prompted.

- 3 If RPM format is supported in your system:

- Locate the `Parallels-cps-srv-XXXX-lin.i386.rpm` file.
- To start installation, enter the following command:

```
rpm -i Parallels-cps-srv-XXXX-lin.i386.rpm
```

Go to Step 7.

- 4 If DEB is supported in your system:

- Locate the file `Parallels-cps-srv-XXXX-lin.deb`
- To start installation, enter the following command:

```
dpkg -i Parallels-cps-srv-XXXX-lin.deb
```

Go to Step 7.

- 5 If both RPM and DEB formats are not supported in your system:

- Locate the `Parallels-cps-srv-XXXX-lin.tgz` archive and extract files into any existing directory:

```
tar -xzf Parallels-cps-srv-XXXX-lin.tgz
```

- go to the directory where the files were unpacked:

```
cd parallels-compressor
```

- 6 To install Parallels Compressor type the following command:

```
./install.sh
```

- 7 To activate Parallels Compressor enter the following command:

```
cpsactivate <activation key>
```

where `<activation key>` stands for the 25-symbol key itself.

8 When the installation is completed, enter the following command:

```
exit
```

to quit the root account.

In the process of installation, the following files were placed to the Parallels Compressor folder (by default, `/usr/share/parallels-compressor/`):

- `parallels-compressor.iso`
- `parallels_compressor_user_guide.pdf`
- `README`
- `LICENSE`
- `cpsactivate`

Installing Parallels Compressor in Guest OS

To install Compressor in your virtual machine:

- check that Compressor supports your guest operating system,
- download the `Parallels-Cps-Srv-XXXX-Win.exe` file.

Before you start the installation, copy the Compressor installation file inside your virtual machine by the means available in your virtual machine: via network connection if it's configured, by drag-and-drop (VMware), using an ISO image of this installation file (all virtual platforms) and so forth.

Note. You must have power user or administrator rights to install the program in the Windows operating systems.

To install Parallels Compressor:

- 1 Run the `Parallels-Cps-Srv-XXXX-Win.exe` file.
- 2 Installation wizard starts and displays the **Welcome** dialog box. Click **Next** to continue.
- 3 **The License agreement.** Read the license agreement. Click **I accept the agreement** and then **Next** or click the **Cancel** button to exit the wizard.
- 4 **Product activation.** Input the customer information: your name and the name of company you work for (these fields are optional).

You can choose one of the following options:

- input your activation key. Click **Next**;
 - buy a permanent activation key. The **Buy** button redirects you to the Parallels Buy Online Page (<http://www.parallels.com/en/buyonline>);
 - get a temporary activation key by clicking the **Register at site** button which redirects to the Parallels Download Center (<http://www.parallels.com/en/download>);
 - skip the activation by clicking the **Activate later** button.
- 5 Select where to place the program shortcuts:

- on the Desktop
- on the Start menu
- on the Quick Launch menu

6 Click Next.

7 Location for Parallels Compressor. Select a location for the program. The default folder is:

`C:\Program Files\Parallels\Parallels Compressor.`

Click **Change** to specify the location different from the default. Click **Next**.

8 The wizard is ready to install the program. Click **Install**.

9 When the installation is completed, select the **Open folder with new installation** check box to view the Parallels Compressor files and click **Finish**.

In the process of installation, the following files are placed to the specified Parallels Compressor folder:

- `ParallelsCompressor.exe`
- `ParallelsCompressor.chm`
- `Parallels Compressor User Guide.pdf`
- `Readme.txt`
- `EULA.txt`

Known issues

When you install Parallels Compressor on Windows XP or Windows Server 2003 the following error may occur: `Error Code: -5006 : 0x80004005`.

- 1** Close all applications and exit all other setups.
- 2** Launch Parallels Compressor setup once again.

If the error still appears, try the the following steps:

- 1** From the Start menu, choose **Control Panel -->Add / Remove Programs**.
- 2** On the left panel select **Add New Programs**.
- 3** Click the **CD or Floppy** button.
- 4** The **Install Program from Floppy or CD** dialog box appears, click **Next**.
- 5** System searches your Floppy and CD drives, then displays the **Run Installation Program** dialog box.
- 6** Click **Browse** and locate the Parallels Compressor installation file.
- 7** Click **Next** and the installation will begin.

Most likely, the program will be installed successfully after these steps.

Activating Parallels Compressor

To run Parallels Compressor you should activate it with an activation key, please read the Terms of (page 6) Use and Getting an Activation Key (page 16) topics. The procedure of activation is slightly different for guest and host operating systems.

Note. The program should be activated in the same operating system in which it was installed.

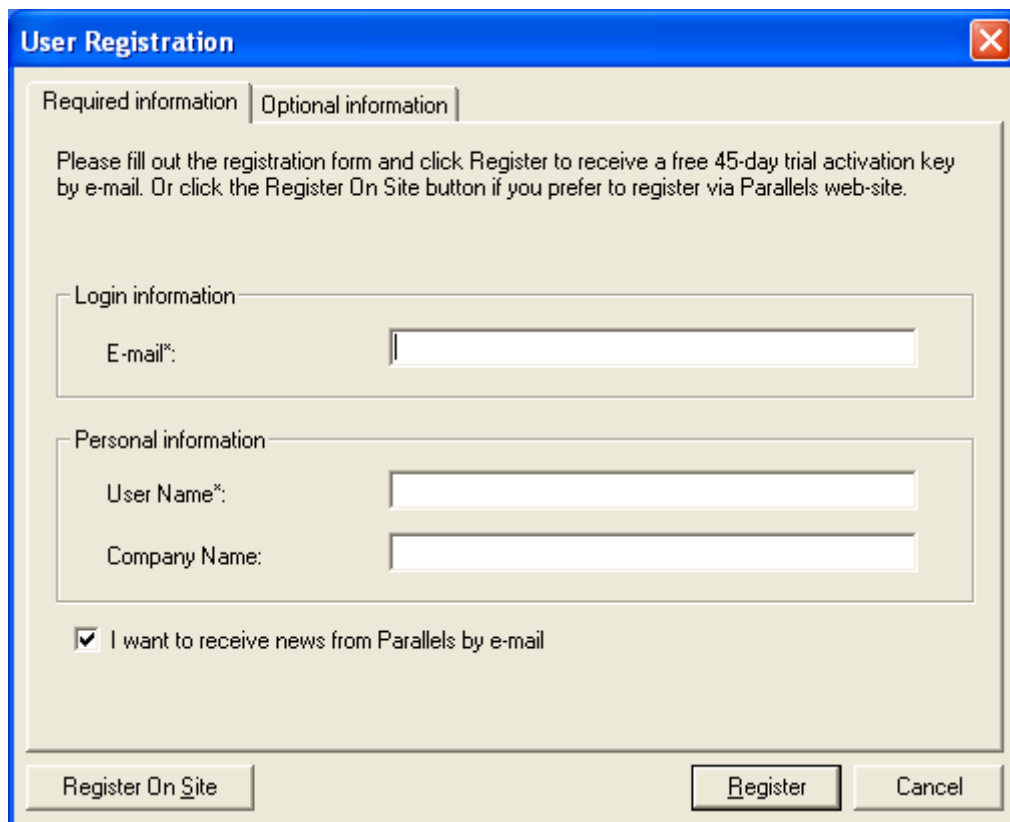
Getting an Activation Key

You may get a free temporary activation key valid only for a trial period or you can buy a permanent activation key.

To get a permanent activation key buy it at the Parallels web-site (<http://www.parallels.com/en/buyonline>).

To get a temporary activation key valid only for a trial period:

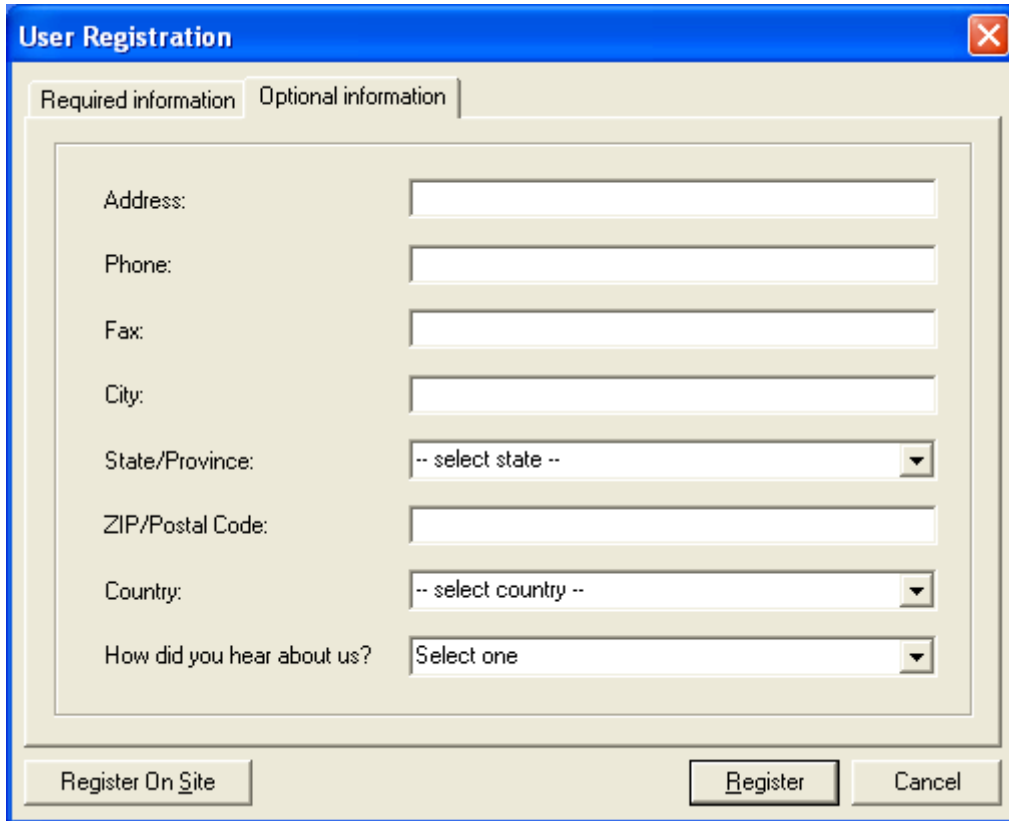
- register at the Parallels Download Center (<http://www.parallels.com/en/download>).
- launch Parallels Compressor, click the Get activation key button on the Parallels Compressor dialog box. The User Registration form appears.



The image shows a 'User Registration' dialog box with a blue title bar and a close button. It has two tabs: 'Required information' (selected) and 'Optional information'. The main text reads: 'Please fill out the registration form and click Register to receive a free 45-day trial activation key by e-mail. Or click the Register On Site button if you prefer to register via Parallels web-site.' Below this, there are two sections: 'Login information' with an 'E-mail*' field, and 'Personal information' with 'User Name*' and 'Company Name' fields. At the bottom, there is a checked checkbox for 'I want to receive news from Parallels by e-mail' and three buttons: 'Register On Site', 'Register', and 'Cancel'.

On the **User Registration** form, specify your e-mail and your name. The **Name** and **Company Name** fields are optional. Specify if you want to receive news from Parallels by email.

Fill out the form on the **Optional Information** tab too.



The screenshot shows a 'User Registration' dialog box with a blue title bar and a close button (X) in the top right corner. It features two tabs: 'Required information' (active) and 'Optional information'. The 'Required information' tab contains the following fields:

- Address: [Text input field]
- Phone: [Text input field]
- Fax: [Text input field]
- City: [Text input field]
- State/Province: [Dropdown menu with '-- select state --']
- ZIP/Postal Code: [Text input field]
- Country: [Dropdown menu with '-- select country --']
- How did you hear about us?: [Dropdown menu with 'Select one']

At the bottom of the dialog, there are three buttons: 'Register On Site', 'Register', and 'Cancel'.

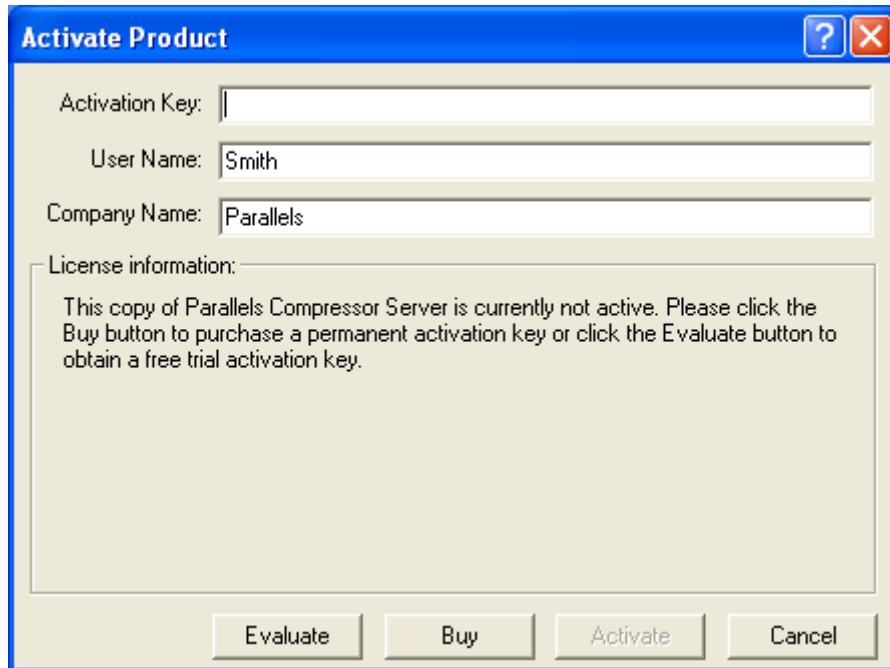
You'll receive a temporary activation key for the trial period by email.

Activating in Host Windows OS

To activate Parallels Compressor in the host Windows operating system with a temporary or permanent activation key follow the steps below:

- 1 Disconnect the Parallels Compressor ISO file from all running virtual machines if it was connected.
- 2 You can start the activation in one of the following ways:
 - Select **Start --> Programs--> Parallels--> Parallels Compressor--> Activate Parallels Compressor**.
 - Click the `CpsLicense.exe` file (activator utility), located in the Parallels Compressor installation folder (by default, `C:\Program Files\Parallels\Parallels Compressor`).

- 3 The Activate Product dialog box appears.



- 4 On the Activate Product dialog box fill in the following fields:
- the Activation Key field, enter the activation key that you received by email. Once this field is not blank, the Activate button becomes enabled.
 - the User Name and Company Name fields. These fields are optional, automatically filled by data taken from Windows system settings.
- 5 Click the Activate button. If you have entered a valid activation key, the following confirmation message will be displayed: "Parallels Compressor has been activated successfully. Thank you!"

After that, your copy of the Parallels Compressor becomes activated and you may use all of its features and capabilities.

The License information box describes your current activation status: non-activated, activated, active trial period, expired trial period, activated permanently, expired permanent. If your copy was activated, all license-related information is displayed here.

Activating in Host Linux OS

If you skipped the product activation during the installation, you'll be required to enter an activation key before you'll be able to run the program.

Note. To activate Parallels Compressor on a Linux computer, you need root privileges.

To activate Parallels Compressor in Linux do the following:

- 1 Disconnect the Parallels Compressor ISO image from all running virtual machines.
- 2 Launch the Terminal program.
- 3 Run the

```
su
```

command to gain root privileges. Enter the password to the root account when prompted.

- 4 For all Linux operating systems enter the following command:

```
/usr/share/parallels-compressor/cpsactivate <activation key>
```

If the registration is successful, you will get an appropriate message.

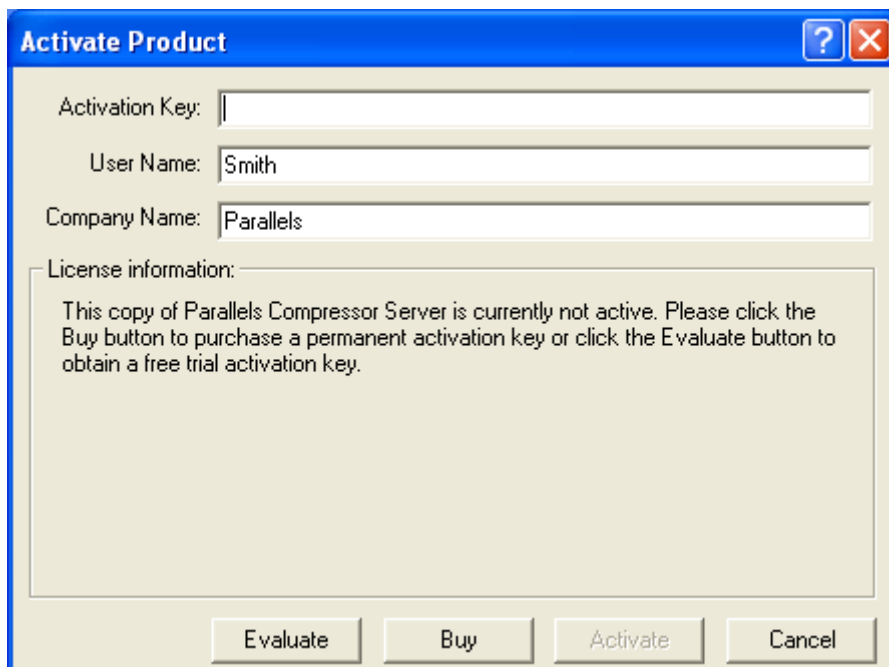
Activating in Guest Windows OS

If you are going to activate Parallels Compressor, which was installed in the guest operating system, perform the following operations:

- 1 Click the Enter activation key button on the Parallels Compressor dialog box. The Parallels Compressor dialog box appears.



- 2 The Activate Product dialog box appears.



- 3 On the Activate Product dialog box fill in the following fields:
 - the Activation key field, enter the activation key that you received by email. Once this field is not blank, the Activate button becomes active.

- the User Name and Company Name fields. These fields are optional, automatically filled by data taken from Windows system settings.
- 4 Click the **Activate** button. If you have entered a valid activation key, the following confirmation message will be displayed: "Parallels Compressor has been activated successfully. Thank you!"

After that, your copy of the Parallels Compressor becomes activated and you may use all of its features and capabilities.

The **License information** box describes your current activation status: inactive, active trial, expired trial period, active permanent, expired permanent. If you have an activated copy, trial or permanent, all license-related information is displayed here.

Activating Parallels Compressor via the command line

If the program was installed in a virtual machine, it also can be activated in the following way:

- 1 Click **Start --> Run** to open command line (the cmd program).
- 2 Change the folder to **Program files-->Parallels-->Parallels Compressor**.
- 3 Enter the command:

```
ParallelsCompressor /R <activation key>
```

where the <activation key> should be substituted for a 25-symbol activation key itself.

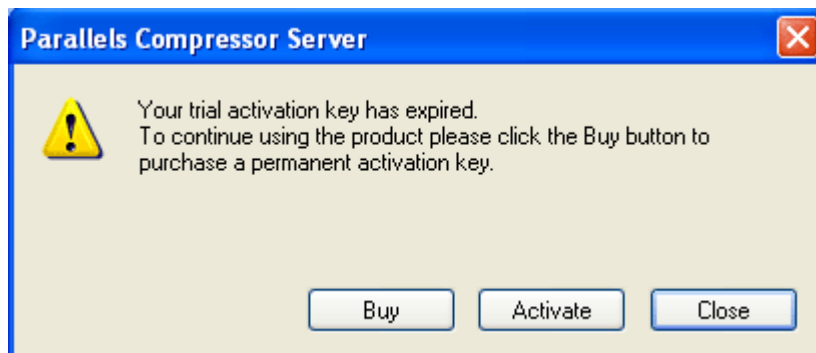
- 4 Parallels Compressor displays the dialog box as one above, and you can enter your activation key and other required information to activate the product.

Activating Parallels Compressor after the trial period

If you entered a temporary activation key to use the product during a trial period, and then get a permanent activation key, you should re-activate your copy of Parallels Compressor with a permanent key.

You can re-activate it at any time by clicking the **Activate** button on the trial period information panel which appears each time you run the program when your trial period is going to its end.

Once the trial period has expired, you can see the following dialog box:



To re-activate the program with a permanent activation key follow the steps:

- 1 Start Parallels Compressor. It displays the same dialog with the **Close** button in place of **Continue**.

- Click the **Activate** button.
- 2 On the next dialog box enter the activation key. Click the **Activate** button.

Updating Parallels Compressor

The update procedure for Parallels Compressor Server consists of the following steps:

- 1 Getting to know about a new update. We recommend that you visit the Downloads Center <http://www.parallels.com/en/download/> at the Parallels web-site.
- 2 Download a new version of the Parallels Compressor package you used for installation.
- 3 When download is completed, log in the host (primary) or in the guest operating system depending on where Parallels Compressor was installed originally. If it is the guest operating system, copy the downloaded file into your virtual machine.
- 4 For updating in the host operating system, disconnect the Parallels Compressor ISO file from all running virtual machines.
- 5 The installation of the update is similar to the installation of the product itself. Follow the steps described by the appropriate topic in this Guide.

Warning. Please do not upgrade any of versions of Parallels Compressor Workstation with Parallels Compressor Server update (and vice versa). Parallels Compressor Workstation should be removed before you start installation of the other edition of the program.

Uninstalling Parallels Compressor in Windows

Uninstallation of Compressor is performed in the same operating system where it was installed whether it is host (primary) operating system or guest operating system.

Note. You must have power user or administrator rights to uninstall the program in Windows operating systems.

To uninstall Compressor:

- 1 If the program was installed in the host (primary) operating system, disconnect the `ParallelsCompressor.iso` file from all running virtual machines.
- 2 Removing of Parallels Compressor can be performed in one of the following ways:
 - In the same operating system where Parallels Compressor was installed (guest or host), click **Start --> Control Panel --> Add / Remove Programs**. On the program list select Parallels Compressor and click **Remove**;
 - Locate the installation file (`Parallels-Cps-Srv-XXXX-Win.exe`). Click this file to start the wizard which will remove the installation.

- 3 Follow the steps of the installation wizard.

The program will be uninstalled, and its folder (the default folder is `C:\Program Files\Parallels\Parallels Compressor`) will be removed.

Uninstalling Parallels Compressor in Linux

Uninstallation of Parallels Compressor is performed in the host (primary) operating system.

Note. To uninstall Parallels Compressor on a computer running Linux you need `root` privileges.

To uninstall Parallels Compressor:

- 1 Disconnect the `parallels-compressor.iso` file from all running virtual machines.

- 2 Run Terminal, enter the command

```
su
```

to gain `root` privileges. Enter the password to the `root` account when prompted.

- 3 If RPM packages are supported in your system, enter the command

```
rpm -e parallels-compressor
```

- 4 If DEB packages are supported in your system, enter the command

```
dpkg -r parallels-compressor
```

- 5 If both RPM and DEB formats are not supported in your system, go to the installation directory and run the following script:

```
./uninstall.sh
```

- 6 To quit the `root` account enter the following command

```
exit
```

The program will be uninstalled, and its folder (default folder: `/usr/share/parallels-compressor/`) will be deleted.

How to Run Parallels Compressor

The way you start Compressor depends on how it was installed: in the host or guest operating system.

Warning. The result of virtual machine compression is irreversible. Before you run the program please back up your virtual machine (by cloning it or by copying its hard disk files to a safe location) to have a chance to roll back in case you don't like the result of compression.

In This Chapter

When installed in Host OS.....	23
When installed in Guest OS.....	26
Parallels Compressor Wizard.....	28
Compression in Automatic Mode	34

When installed in Host OS

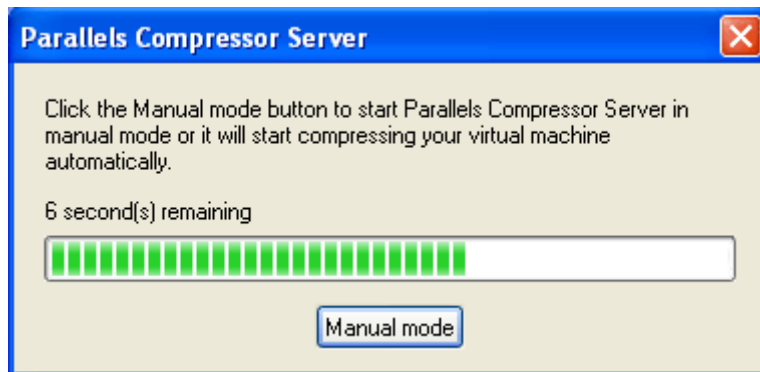
To run Compressor in a virtual machine you must have administrator rights in the guest operating system. Log into the guest operating system as a user with administrator rights.

Warning. Before running the Compressor, you should check the hard disk for errors by running the `chkdsk.exe` utility.

Use the Parallels Compressor ISO image file to run Compressor in your virtual machine as follows:

- 1 Locate the Parallels Compressor ISO file:
 - in Windows host OSes: `ParallelsCompressor.iso`, the default folder: `C:\Program Files\Parallels\Parallels Compressor`
 - in Linux host operating systems: `parallels_compressor.iso`, the default folder: `/usr/share/parallels-compressor/`.
- 2 Open the configuration of the virtual machine you want to compress. Connect this ISO image file to the CD/DVD-ROM of the virtual machine. More detailed information is provided in the Connecting Compressor ISO Image File (page 24) topic.

- 3 Power on the virtual machine. Compressor starts automatically and displays the dialog box with a time indicator showing the time remaining until Compressor will run in automatic mode.



- 4 You can let it run in automatic mode (page 40), just wait... In this case, Compressor performs Express (page 41) compression.
- 5 You can choose manual mode (page 40) to customize the compression. Click the **Manual mode** button before the timeout expires. The Parallels Compressor Wizard will guide you through the steps of compression process.

Connecting Compressor ISO Image File

For Parallels Workstation

Check that your virtual machine meets the requirements provided by the Limitations of Virtual Machine Compression (page 39) topic.

- 1 Start the Parallels Workstation and open a virtual machine you want to compress.
- 2 If your virtual machine does not have a CD/DVD-ROM drive in its configuration, edit the virtual machine configuration:
 - add a CD/DVD-ROM, select **Enabled**;
 - choose the **Use image file** option;
 - browse to locate the Parallels Compressor ISO file or specify the path to the file and click **OK**;
 - start the virtual machine.
- 3 If your virtual machine already has a CD/DVD-ROM in its configuration:
 - start the virtual machine;
 - on the Parallels Workstation menu, select **Devices --> CD/DVD-ROM --> Connect Image**, or click the CD icon on the status bar and select **Connect Image**.
 - specify path to the ISO file.
- 4 Compressor starts automatically.

For VMware Workstation

Check that your virtual machine meets the requirements provided by the Limitations of Virtual Machine Compression (page 39) topic.

- 1 Run the VMware Workstation. Open the virtual machine which you want to compress.
- 2 If your virtual machine does not have a CD/DVD-ROM drive in its configuration, edit the virtual machine's configuration:
 - click the **Edit virtual machine settings** option;
 - connect a CD/DVD-ROM if it wasn't connected;
 - choose the **Use ISO image** option;
 - click **Browse** to locate the Parallels Compressor ISO file and click **OK**;
 - start the virtual machine.
- 3 If your virtual machine already has a CD/DVD-ROM in its configuration:
 - start the virtual machine;
 - once fully logged in, select **VM-->Settings-->CD/DVD-ROM** on the Workstation menu. Provide the full path to the Parallels Compressor ISO file;
- 4 Compressor starts automatically. To switch to the manual mode press the **ESC** key or click the **Manual Mode** button.

For Microsoft Virtual PC

Check that the Virtual PC meets the requirements provided by the Limitations of Virtual Machine Compression (page 39) topic.

- 1 Start the virtual machine you would like to compress.
- 2 Once fully logged in, select the **CD --> Capture ISO** on the Virtual PC menu.
- 3 Click **Browse** to locate the Compressor's ISO file, select it and click **Open**.

For Microsoft Virtual Server

- 1 Open Microsoft virtual server **Master status** page.
- 2 Open the virtual machine configuration table.
- 3 Click the **CD/DVD** link to edit its configuration.
- 4 Select the **Known Image File** option.
- 5 Type or paste the full path to the Compressor ISO file or click **Browse** to locate this file. Select it and click **OK**.
- 6 Start Virtual PC. When logged, double-click the **CD/DVD-ROM** link.
- 7 Compressor starts automatically.

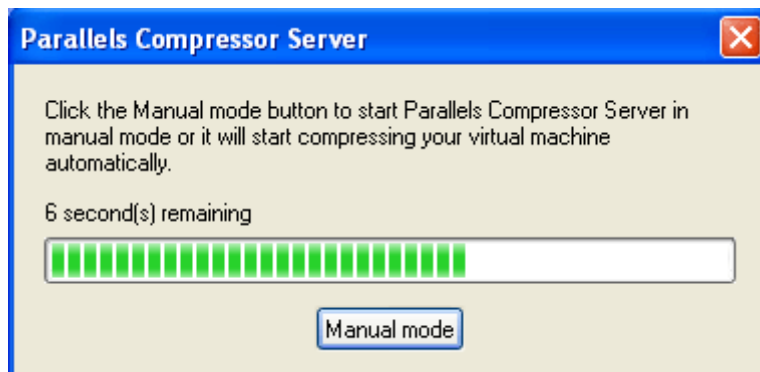
When installed in Guest OS

To run Compressor in a virtual machine you must have administrator rights in the guest operating system. Before you start the program log in as a user with administrator rights.

Warning. Before running the Compressor, you should check the hard disk for errors by running the `chkdsk.exe` utility.

If you installed Compressor in a virtual machine (in the guest operating system), you can easily run it whenever you need to compress this virtual machine.

- 1 Power on the virtual machine. When fully logged in, launch the program in one of the following ways:
 - Click Start --> Programs -->Parallels -->Parallels Compressor.
 - Click the `ParallelsCompressor.exe` file located in the default program folder `C:\Program Files\ Parallels\ Parallels Compressor` or in the folder specified during installation.
 - Click the **Parallels Compressor** icon on the Quick Launch menu.
 - The program can also be launched using the command-line mode. For details please refer to the **Command-Line Keys** (page 27) topic.
- 2 Once launched, Compressor displays the dialog box with a time indicator showing the time remaining to the moment when it will run in automatic mode.



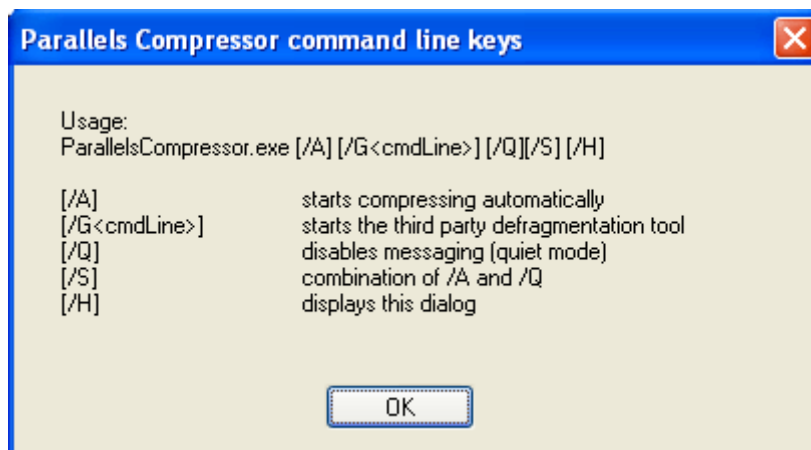
- 3 You can let it run in automatic mode (page 40). In this case, Compressor performs Express (page 41) compression.
- 4 You can choose manual mode (page 40) to customize the compression. Click the **Manual mode** button before the timeout expires. The Parallels Compressor Wizard will guide you through the steps of compression process.

Compressor Command-Line Keys

Compressor installed in the guest operating system can be run from the command line.

The current version of Compressor has the following keys:

- `/A` - to start program in automatic running mode, without prompting user to confirm operations (except for the final dialog which requires to confirm exit);
- `/R <activation key>` - to register or activate the program. You can use it for: initial activation, activation during the trial period or when the trial period has been expired. `<activation key>` stands for the 25-symbol activation key itself, typed without spaces. The error codes are as follows:
 - 0 - OK, the activation has completed successfully
 - 1 - the activation key is expired
 - 15 - the activation key is invalid
 - 255 - an unknown error
- `/Q` - to disable messaging ("quiet mode") during activation by scripts, to be used with `/R` ;
- `/S` - to run Compressor in completely non-interactive mode ("silent mode"), may be used with `/R` to include the registration in silent mode;
- `/G <cmdline>` - to use a third party defragmentation tool instead of the tool used by Compressor, `<cmdline>` stands for the path and name of the tool ;
- `/H` - to open help panel with the list of available keys as below:



To run Compressor with keys follow the steps below:

- 1 Click **Start --> Run** to open the command line (the cmd program).
- 2 Change the folder to `C:\Program files\ Parallels\ Parallels Compressor`.
- 3 Type, for example, the command:

```
ParallelsCompressor /R
```

to activate the product.

Comments to command-line format

- The program name and key are separated by a space.
- If spaces are used in the <activation key> or in <cmdline>, enclose the expression in double quotes as follows:

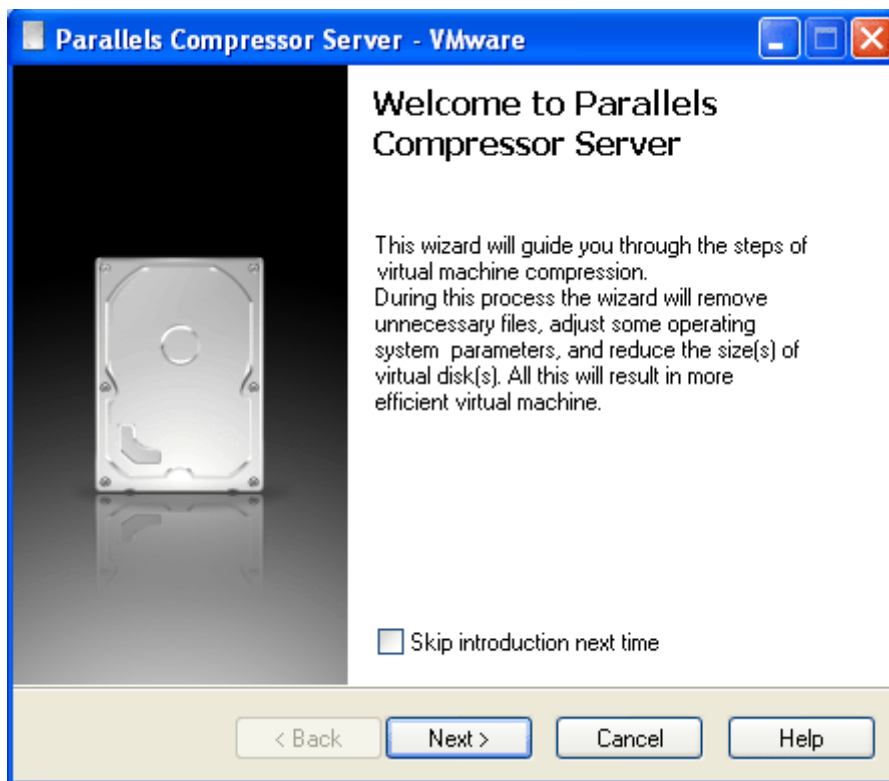
```
ParallelsCompressor /G"C:\Program Files\...\defrag.exe"
```

- There is no space between the key and its parameter, as above.

Parallels Compressor Wizard

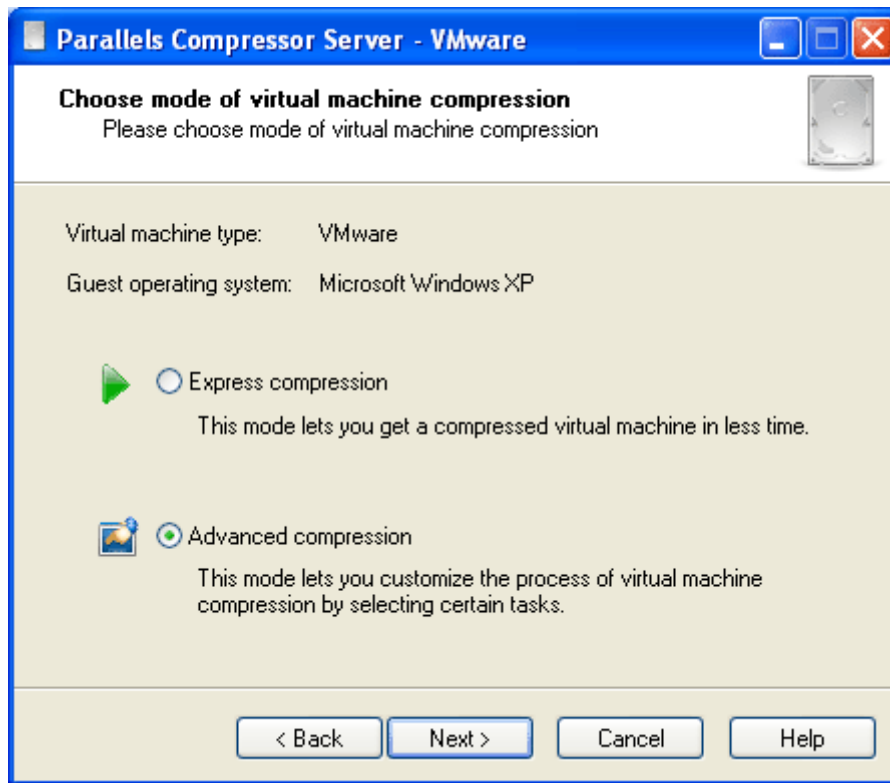
Compressor is implemented as a wizard, and it will guide you through the steps of virtual machine compression process.

- 1 The wizard starts and displays the Welcome screen.



If you'd like to skip the Welcome screen next time you run the wizard, select the Skip introduction next time check box. Click Next to continue.

- 2 Choose mode of virtual machine compression. At this step, the wizard detects the type of your virtual machine and the type of guest operating system installed. The wizard prompts you to choose between **Express** compression and **Advanced** compression (page 41).

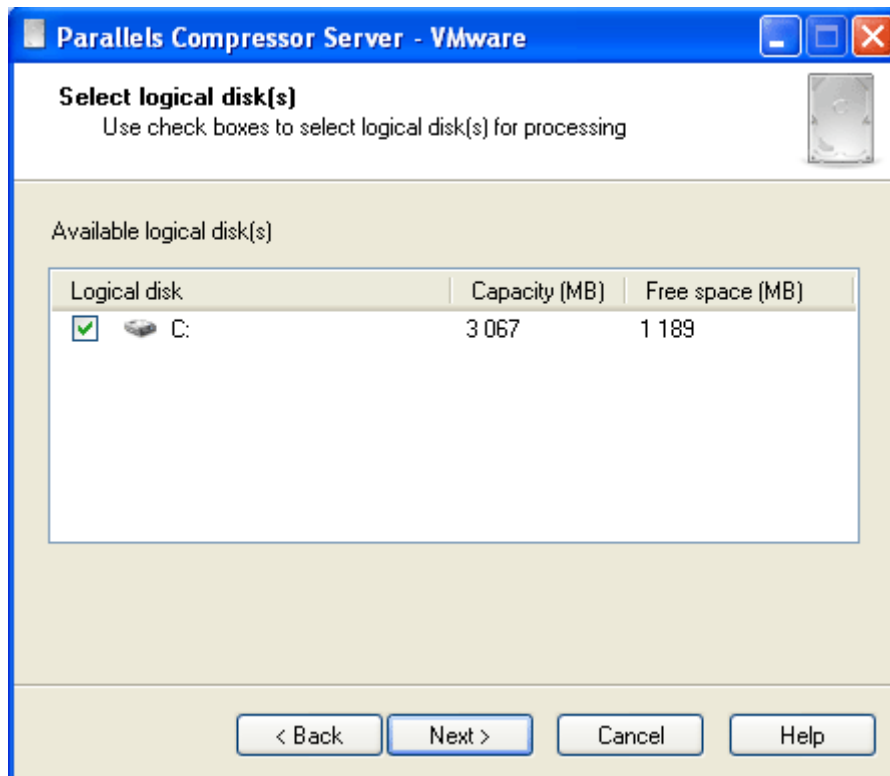


If you choose **Express** compression mode, the wizard will use the default options specific for the type of the virtual machine and guest operating system.

If you choose the **Advanced** compression mode, you will be able to select certain options of this process.

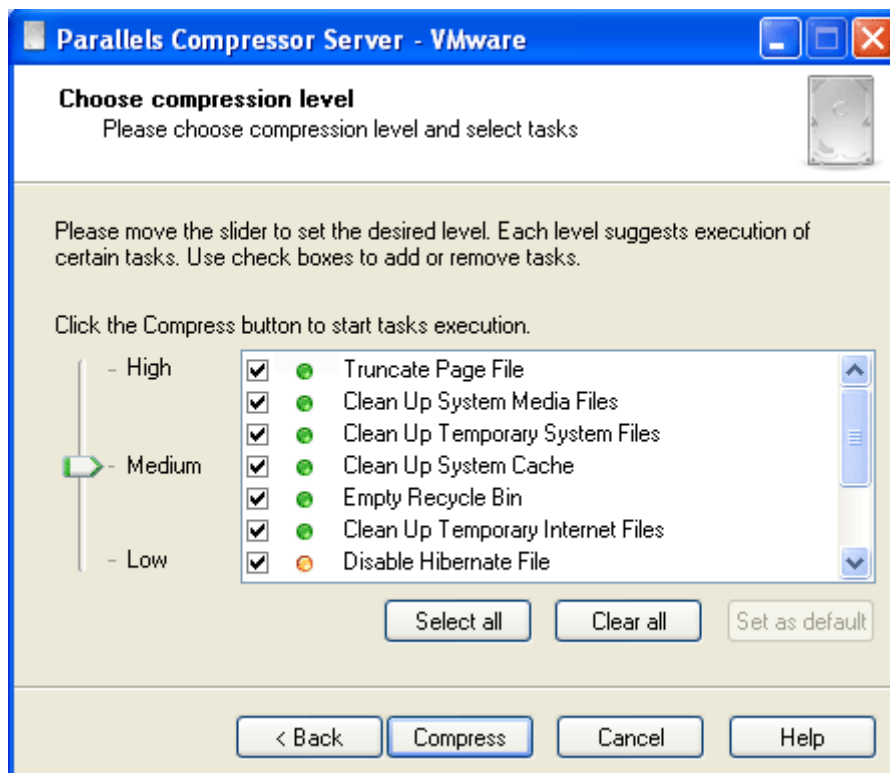
- 3 **Select Logical Disk(s).** The wizard determines what hard disks are available in your virtual machine. Compacting or shrinking of real disks is not supported, and such disks will not appear on the list. Please read the **Limitations of Virtual Machine Compression** topic if you are not sure what disk formats are supported.

Use check boxes to select a disk or disks.



Click Next. If you selected Express compression mode on the Step 3, then see Step 6.

4 Choose Compression Level.



The wizard prompts you to choose the Compression level (page 42). There are three levels: *High*, *Medium*, *Low*.

To choose the level, place the cursor over the level slider and smoothly move slider to the desired level or just click the levels consecutively starting from High until the slider reaches the desired level.

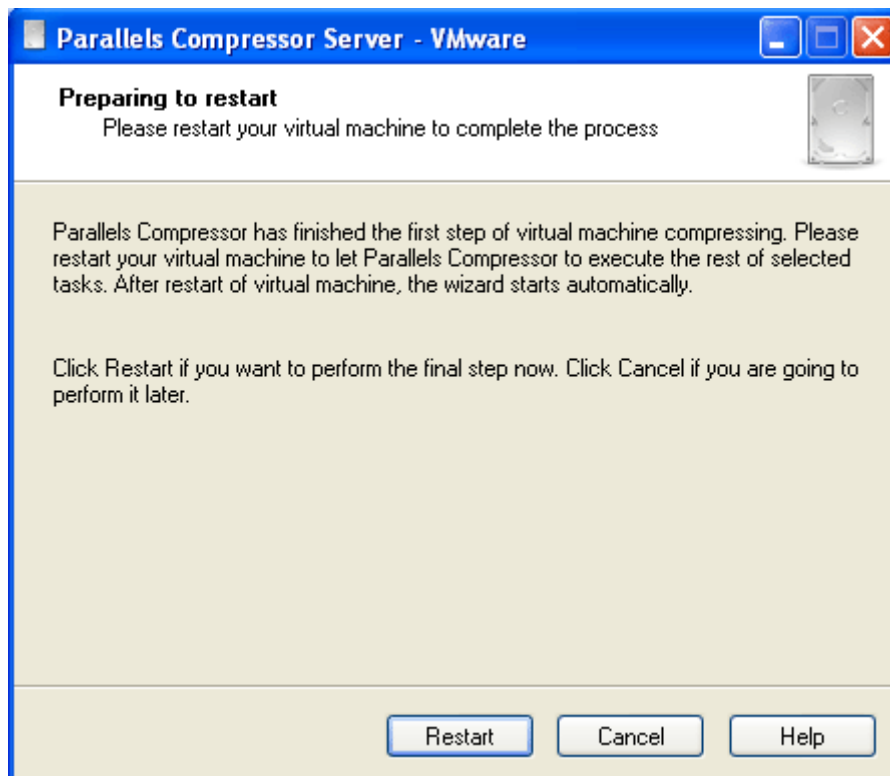
Each level suggests that certain tasks will be executed. Additionally, you can select check boxes for tasks you want to be executed and clear the check boxes for tasks you don't want to be executed. You also can click the **Select all** button to select all tasks or click **Clear all** to clear all check boxes. Click **Set as default** to restore the selection of tasks that are default for the chosen level.

The check box for the **Compact virtual disk** task is always disabled. This task is executed at each level for all virtual machines except Virtual PC.

Click the **Compress** button. Wizard starts executing the selected tasks, and you can see the progress of operation.

If you cleared the check box for the **Truncate page file** option, the wizard skips **Step 5** and **Step 6**.

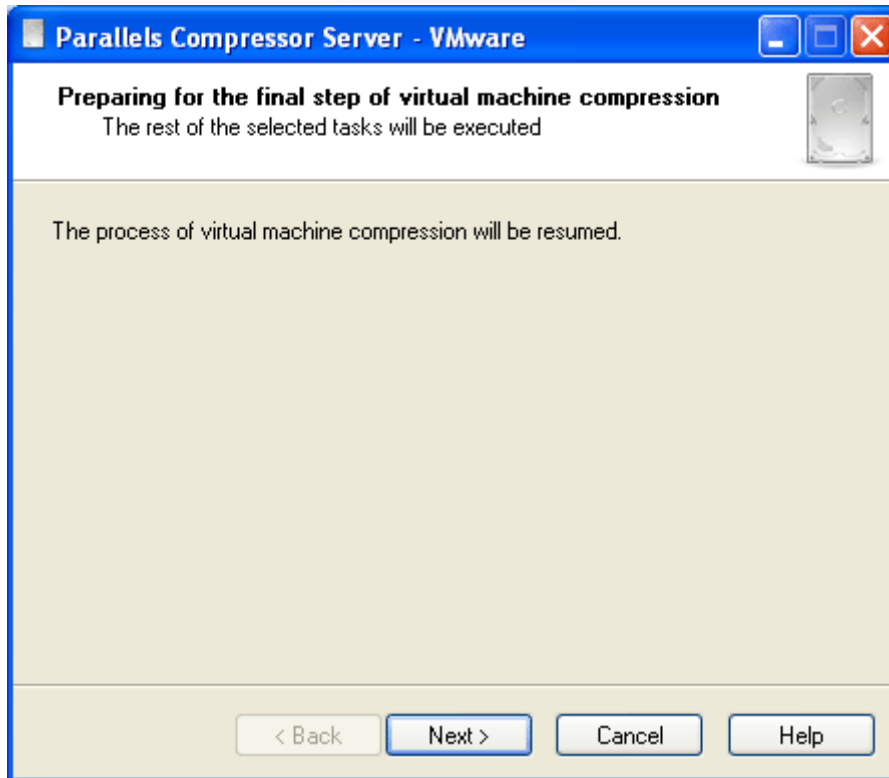
- 5 **Preparing to restart.** Depending on the tasks that you have selected on the previous step, the wizard may require restarting of the computer.



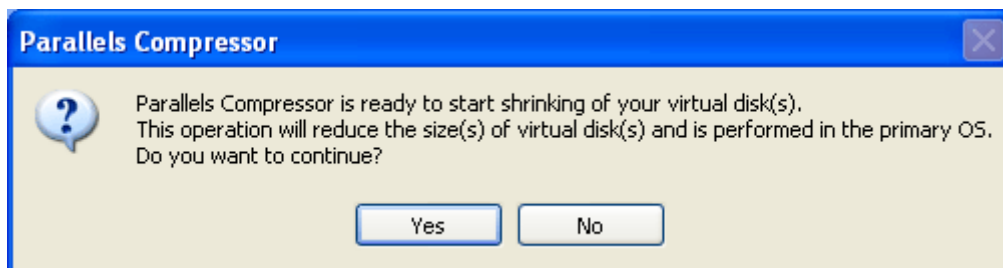
Click **Next** to restart your virtual machine.

If you click **Cancel**, the process of virtual machine compressing will be resumed automatically when you start or restart your virtual machine next time.

- 6 After restart is completed, the wizard is ready to resume the execution of tasks. Click **Next**.



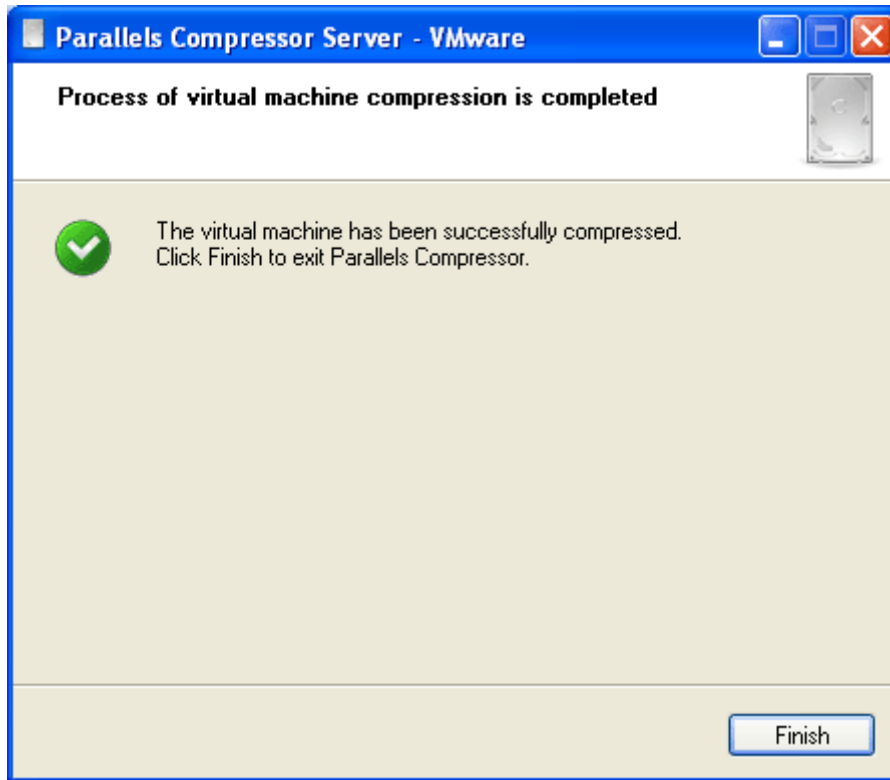
- 7 In the wizard's next dialog box, you can see the progress of operations. If you have chosen **Express** compression, the wizard performs the disk compacting without prompting you to confirm this operation.
- 8 Compacting (shrinking for VMware machines) of the virtual disks is the final step of compression.



Click **Yes** to perform this operation. Click **No** to skip compacting of disk(s).

In some cases the compacting of virtual disks will not be performed, for example, when a selected disk is in plain format. For more information please refer to the [Limitations of Virtual Machine Compression](#) (page 39) topic.

9 Compression of the virtual machine is completed.



Now, your virtual machine is compressed and significantly reduced in size.

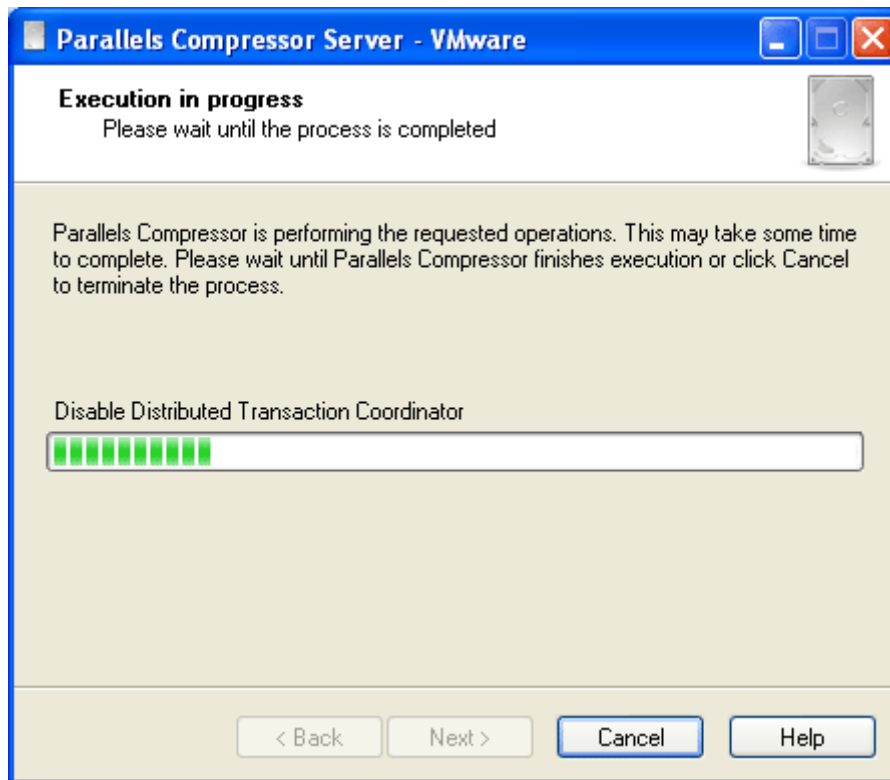
Compression in Automatic Mode

In *automatic* mode Compressor uses the following default options:

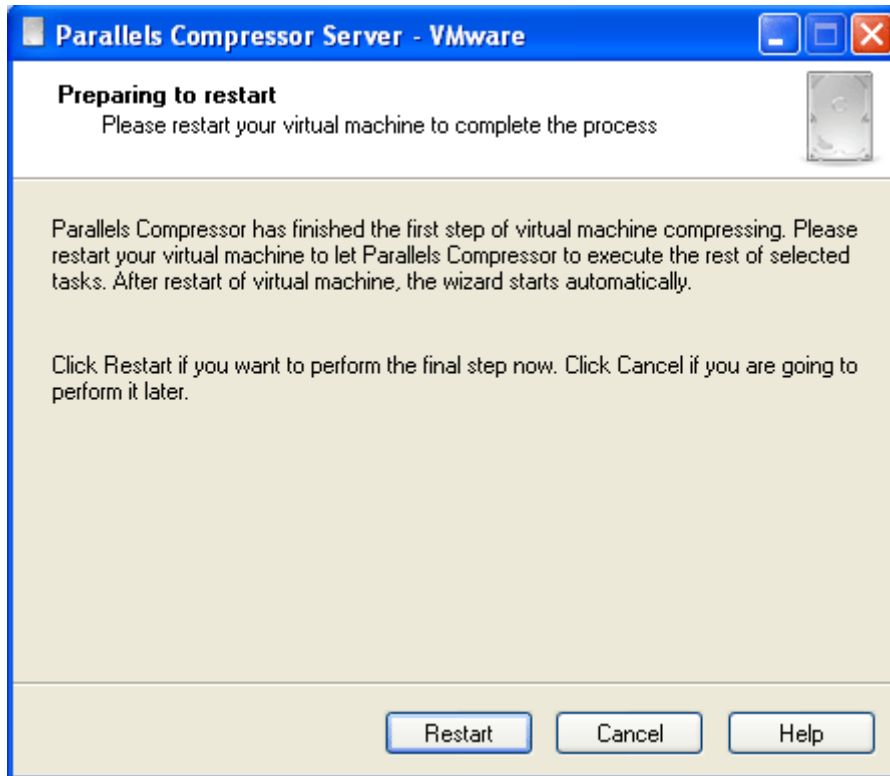
- only one virtual system disk is being processed (if virtual machine has several system disks, the one with the currently loaded system);
- compression is performed at the High compression level, all compression tasks will be executed, except for Clean up Drivers Cache, which will be skipped.

Note. During its work, Compressor displays several dialog boxes. Although they are used for information purposes, you can click **Cancel** any time to stop Compressor or click the **Help** button to get necessary information.

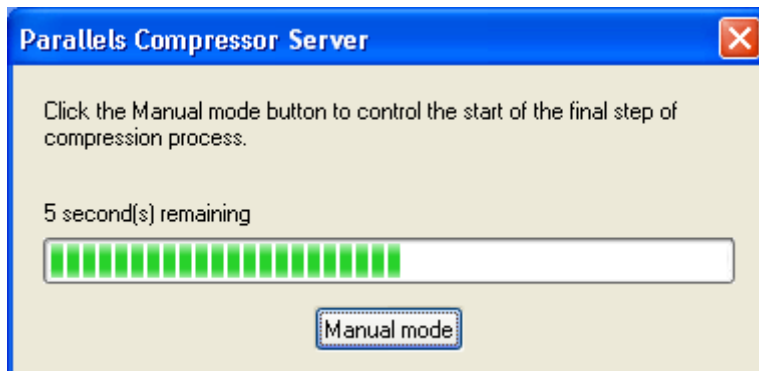
- 1 Compressor displays the Execution in progress dialog box that informs you what tasks are being executed.



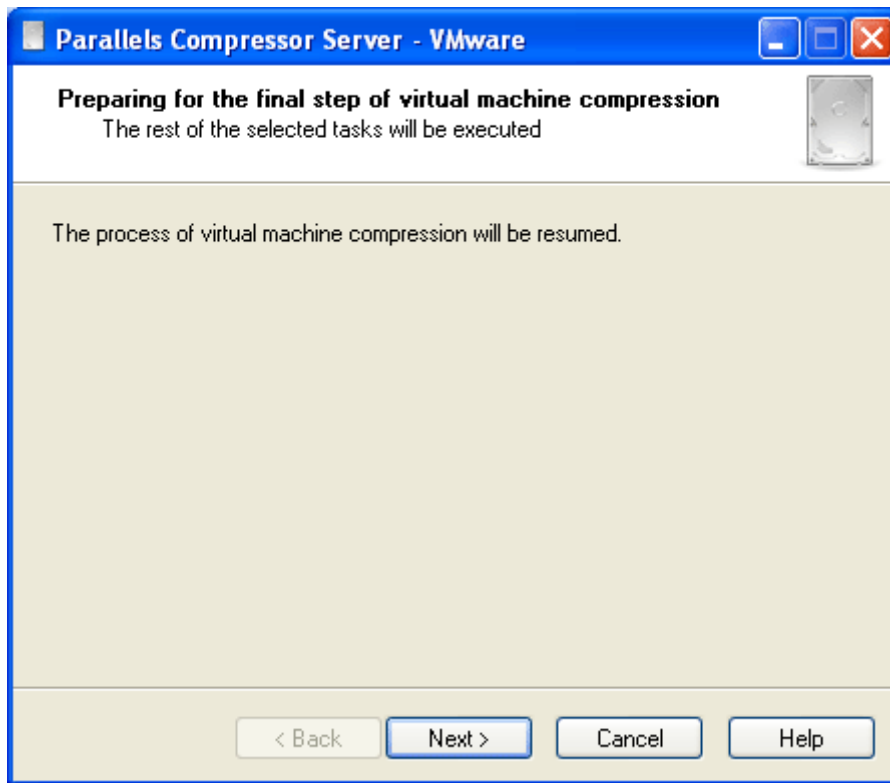
- 2 The next screen states that Compressor is going to restart the virtual machine.



- 3 Compressor restarts the virtual machine.
- 4 After the restart, the wizard displays the dialog box with the time indicator which shows the time remaining until Compressor will continue the execution of compression tasks.

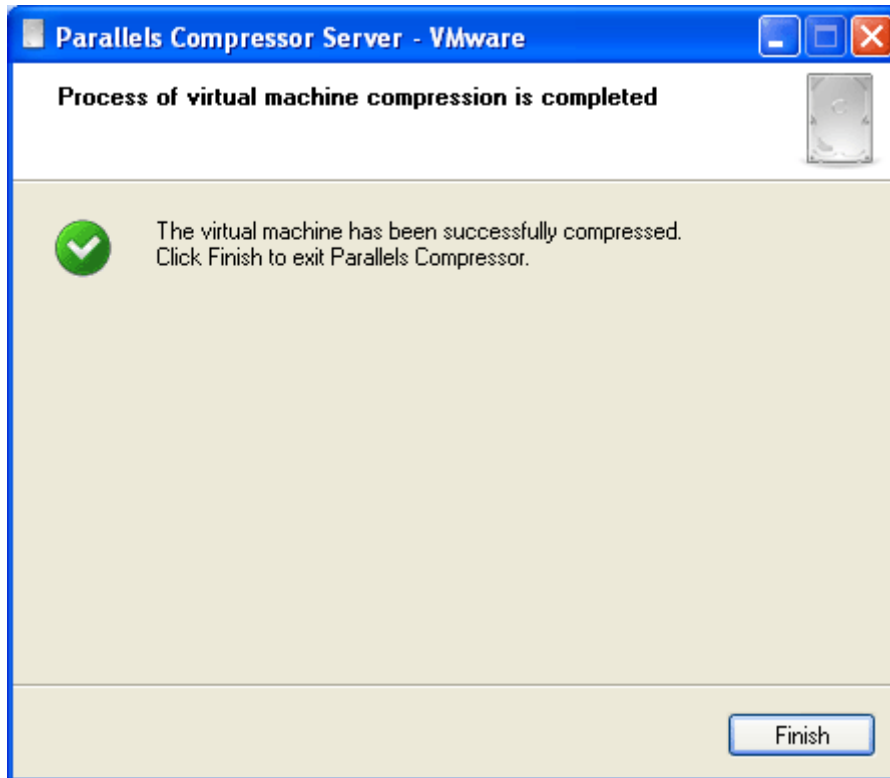


If you click the **Manual mode** button before the timeout expires, you can postpone the execution of the remaining tasks. In this case you will see the dialog box shown below. Click **Next** to let Compressor continue the compression.



- 5 When Compressor resumes the execution of compression tasks (after the restart of the virtual machine), it informs you about the tasks currently being performed on the Execution in progress dialog box.

- 6 When Compressor successfully finishes its work, you will see the following screen.



Click **Finish** to exit Compressor.

Options of Compressing

This Chapter describes in detail all the options of Parallels Compressor available in manual mode.

In This Chapter

Limitations of Virtual Machine Compression.....	39
Running Modes	40
Express and Advanced Modes	41
Compression Levels	42
Further Reducing the Disk	43

Limitations of Virtual Machine Compression

Parallels Compressor processes a virtual machine in the following way:

- deletes unnecessary files on the current system
- defragments virtual disks of all formats and cleans up unused space
- compacts expanding disks

In *automatic* mode Compressor processes only the current system disk (if the disk is plain, it will not be compacted).

Virtual machines of different virtual platforms have a variety of virtual disk formats and running modes. The operation of compressing has a number of limitations for certain disk formats and modes.

Limitations for expanding disks

The most effective compression is performed on virtual system disks in expanding format for virtual machines from VMware (only in persistent mode) and Parallels.

Non-system and not current system (in multi-booting machine) expanding disks are usually compressed by a lesser extent.

Note. For Microsoft Virtual PC, the compacting operation for its disks should be done by means of Virtual Disk Wizard.

Limitations for plain (fixed-size) disks

Compressor performs only disk cleaning and defragmenting for virtual disks in plain format; disk compacting can not be done for plain disks.

Physical disks

Compressor does not support any operations on physical disks connected to virtual machines.

Limitations for VMware virtual machines

Compressor doesn't support compressing for the following objects:

- linked clone (or parent in a template mode)
- virtual machine with snapshots
- expanding disks in non-persistent mode (changes are not immediately written to a virtual hard disk)

Limitations for Microsoft Virtual PC

Compressor doesn't support disk compacting for all disk objects.

Disk cleaning is not supported for the following objects:

- undo disks (changes are not immediately written to a virtual hard disk)
- differencing disks

Running Modes

Parallel Compressor can be run in *manual* and *automatic* modes.

Automatic mode

Automatic mode is the default mode. It is available each time you start Compressor, no matter where it is installed, in guest or in host (primary) operating system.

Once launched, Compressor displays the dialog box with a time indicator showing the time remaining to the moment when Compressor will run in automatic mode. If the **Manual mode** button is not clicked to stop the time indicator, Compressor will run in automatic mode.

If the program was installed in a virtual machine, it also can be launched in automatic mode in the following way:

- 1 Click **Start --> Run** to open the command line (the `cmd` program).
- 2 Change the folder to **Program files-->Parallels-->Parallels Compressor**.
- 3 Enter the command:

```
ParallelsCompressor /A
```

- 4 The program starts. Compressor displays the dialog box with time indicator showing the time remaining to the moment when Compressor will run in the automatic mode.

Note. Other command-line keys for Compressor are described in the **Command-Line Keys (page 27)** topic.

In automatic mode, Compressor will perform Express Compression (page 41) without prompting user to confirm most of operations.

Manual mode

This mode is available for both types of installation. To launch Compressor in manual mode do the following:

- 1 If Compressor is installed in the guest operating system, click **Start --> Programs-->Parallels -->Parallels Compressor**.
- 2 If Parallel Compressor is installed in the host (primary) operating system, connect the Parallels Compressor ISO file to the CD/DVD-ROM of the virtual machine and start your virtual machine. Or, if it is already running, connect the ISO file to the CD / DVD-ROM "on the fly".
- 3 The program starts and displays the time indicator. Press the **ESC** key or click the **Manual Mode** button to switch to manual mode.

- 4 The Parallels Compressor Wizard (page 38) will guide you through the steps of the compression process.

Express and Advanced Modes












When launched in manual mode, Compressor offers two modes of virtual machine compression:

- **Express** compression. Recommended for all users. Compressor uses the default options for the process. It performs compression at the *High* level and executes all the compression tasks.
- **Advanced** compression. Recommended for advanced users only. In **Advanced** compression mode, the wizard lets you select options: logical disks, desired compression level and tasks to execute.







Compression Levels




Parallels Compressor supports three levels of compression: *Low*, *Medium*, *High*. Each level suggests the execution of certain tasks. The wizard displays the complete list of such tasks.

The complete list includes the following tasks:

-  Truncate Page file (recreates the system page file of smaller size);
-  Clean Up Temporary System Files (deletes temporary files used by the system for acceleration of operations);
-  Clean Up System Cache (deletes temporary data stored by system on disk to increase performance);
-  Empty Recycle Bin (permanently removes previously deleted files from the Recycle Bin);
-  Clean Up Temporary Internet Files (cleans up the Internet Explorer cache, deletes cookies, history, address bar, temporary files);
-  Disable Hibernate file (disables hibernate file which stores the virtual machine memory when the virtual machine is turned off);
-  Compact virtual disk(s) (reduces the size of disk in host (primary) operating system);
-  Clean Up Temporary Setup Files (deletes installation files used by MS Office and other programs);
-  Clean Up System Media Files (deletes temporary files used by Media Player);
-  Clean up Drivers Cache (empties the cache for the most popular drivers; if you are going to install new hardware clear this check box);
-  Clean Up System Restore Information (deletes data related to the last successful system loading).

By default, tasks are assigned to the compression level in the following way:

- **High level:** all tasks on the list (marked by , , )
- **Medium level:** all tasks marked by  and 
- **Low level:** only tasks marked by 

The desired level of compression can be chosen with the help of a slider which has three positions: *Low*, *Medium*, *High*. For each task on the list there is a check box. When the slider is at the *High* position all tasks are selected. Moving the slider from *High* to *Medium* position, clears check boxes for tasks marked by ; moving the slider to the *Low* position clears check boxes for tasks marked by  and leaves as selected only those tasks which are suggested for execution at the *Low* level (.

Additionally, with any level chosen, you can add/remove tasks by selecting or clearing corresponding check boxes. To restore the selection of tasks default for the chosen level, click the **Set as default** button.

Note. For VMware and Parallels virtual machines the check box for **Compact virtual disk(s)** task cannot be cleared; this task is mandatory for each level. For Virtual PC the check box for this task is cleared and disabled.

In Express compression (page 41) mode (or in automatic mode) all tasks suggested by the *High* level are executed.

Advanced compression (page 41) allows users to select any set of tasks.

Further Reducing the Disk

After you have used Compressor to process your virtual machine, you can reduce the virtual machine's size even further for storage purposes.

If you are going to share the virtual machine hard disk files (that is to copy to another computer or to transfer them over the network), then the smaller its disks are, the better. Once Compressor has completed its work, turn off the virtual machine. Running the virtual machine after compression has been completed will increase the size of its system disk file (the system page file increases as the virtual machine is running). As the virtual hard disk is just a file on your computer, you can archive it with WinZip or WinRAR, whatever you prefer. The size can be reduced by 50% or more and can fit on a CD or a DVD.

When you decide to continue working with the virtual machine, extract its files from the archive.

Index

A

- About Parallels Compressor Server • 4
- Activating in Guest Windows OS • 19
- Activating in Host Linux OS • 18
- Activating in Host Windows OS • 17
- Activating Parallels Compressor • 16
- Activation utility • 11, 16
 - cpslicense.exe • 11, 16

B

- Benefits of Using Parallels Compressor • 5

C

- Command-line keys • 16, 27, 40
 - activate, /R • 23, 40
 - automatic mode, /A • 38
- Compacting of disk • 28, 39
- Compression
 - default level • 28, 40
 - express • 28, 41
 - level • 28, 41
 - tasks • 38
- Compression in Automatic Mode • 34
- Compression Levels • 42
- Compressor Command-Line Keys • 27
- Connecting Compressor ISO Image File • 24
- CpsActive.exe • 11, 16
- CpsLicense.exe • 11, 16

D

- Downloading the Parallels Compressor • 11

E

- Editions of Parallels Compressor • 4
- Expanding disk • 28, 39
- Expanding format • 28, 39, 41
- Express and Advanced Modes • 41

F

- Further Reducing the Disk • 43

G

- Getting an Activation Key • 16

H

- Hard disk • 38
 - physical disk • 39
 - virtual disk • 39
- How to Run Parallels Compressor • 23

I

- Installing in Host Linux OS • 13
- Installing in Host Windows OS • 11
- Installing Parallels Compressor • 7
- Installing Parallels Compressor in Guest OS • 14
- Installing Parallels Compressor in Host OS • 11
- Introduction • 4
- ISO image file • 11, 24

L

- Limitations of Virtual Machine Compression • 39

M

- Mode
 - advanced • 28, 40, 41
 - express • 28, 41
 - running • 23

O

- Operating system • 7
 - guest • 11
 - host • 11
- Options of Compressing • 38

P

- Parallels • 4, 11
 - downloads page • 5, 11
 - web-site • 6, 11
 - workstation • 7, 24
- Parallels Compressor
 - ISO image file • 11, 24
 - mode • 28, 40, 41
 - running mode • 38
 - tasks • 38
- Parallels Compressor Wizard • 28
- Plain disk • 28, 39

Plain format • 28, 39

R

Requirements for Guest OS • 10

Requirements for Host OS • 9

Running mode • 38

 automatic • 27, 40

 manual • 27, 28, 40, 41

Running Modes • 40

S

Supported Virtual Platforms • 8

System Requirements • 7

T

tasks • 38

Terms of Use • 6

U

Uninstalling Parallels Compressor in Linux •
 22

Uninstalling Parallels Compressor in Windows
 • 21

Updating Parallels Compressor • 21

V

Virtual disk

 expanding format • 4, 38

 plain format • 4, 38

W

When installed in Guest OS • 26

When installed in Host OS • 23