

PARALLELS SERVER 4.0 FOR MAC BARE METAL EDITION

README

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This document provides the first-priority information on Parallels Server 4.0 for Mac Bare Metal Edition and supplements the included documentation.

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1. ABOUT PARALLELS SERVER 4.0 FOR MAC BARE METAL EDITION

This is the first release of Parallels Server 4.0 for Mac Bare Metal Edition, virtualization solution that allows you to create and run virtual machines on bare Apple hardware. Using Parallels Server 4.0 for Mac Bare Metal Edition, you can efficiently use your Mac's hardware resources by sharing them among multiple virtual machines.

2. WHAT'S NEW

This version of Parallels Server 4.0 for Mac Bare Metal Edition includes the following new features and improvements.

* **Installation on bare Apple hardware**

Parallels Server 4.0 for Mac Bare Metal Edition is the first Parallels solution that can be installed and used on bare Apple hardware.

* **Leopard and Snow Leopard support**

You can now create and manage virtual machines running the Mac OS X Leopard and Mac OS X Snow Leopard operating systems.

*** Command line interface**

New command line tools (*pctl*, *pmigrate*, *pstat*, etc.) are introduced in Parallels Server 4.0 for Mac Bare Metal Edition. These tools allow you to perform various management operations on your virtual machines.

*** Creating virtual networks**

Parallels Server 4.0 for Mac Bare Metal Edition supports creating virtual networks, which allows you to include your virtual machines in different networks.

*** Migration improvements**

Now you can migrate physical computers to virtual machines.

*** Parallels Virtual Automation support**

Macs running Parallels Server 4.0 for Mac Bare Metal Edition can now be managed using Parallels Virtual Automation 4.5.

*** Installing Parallels Virtual Automation**

The possibility of installing Parallels Virtual Automation is available now via the Parallels Server for Mac Bare Metal Edition installer. Once the installation is complete, you can log in to Parallels Virtual Automation Control Center by opening *http://<PVA_Node_hostname>* in your browser and using the root user name and the password you set during the Parallels Server for Mac Bare Metal Edition installation.

*** Assigning IP address to virtual machines**

Virtual machines can now be assigned IP addresses from the Mac. For this functionality to work, Parallels Tools must be installed in the virtual machine.

*** Executing commands inside virtual machines**

Now you can execute arbitrary commands inside virtual machines by running them from the Mac. For this functionality to work, Parallels Tools must be installed in the virtual machine.

*** Setting user passwords for virtual machines**

Parallels Server 4.0 for Mac Bare Metal Edition supports setting user passwords for virtual machines from the Mac. For this functionality to work, Parallels Tools must be installed in the virtual machine.

*** Virtual machine migration**

You can now migrate virtual machines between Macs running Parallels Server 4.0 for Mac Bare Metal Edition.

*** Resizing and compacting virtual disks**

A new *prl_disk_tool* utility allows you to resize and compact virtual disks in your virtual machines.

*** Changing Windows SIDs**

You can now change Windows unique security identifiers (SIDs) when cloning a virtual machine or deploying a virtual machine from a template. For this feature to work, Parallels Tools must be installed in the virtual machine.

*** Kickstart installation**

You can perform an unattended installation of Parallels Server 4.0 for Mac Bare Metal Edition via the network.

*** Virtual machine backup**

Parallels Server 4.0 for Mac Bare Metal Edition supports backing up and restoring virtual machines on both local and remote Macs.

*** Network traffic accounting**

Network traffic can now be accounted for both virtual machines.

*** CPU resources limits and CPU units**

You can now set the minimal share of the CPU time a virtual machine is guaranteed to receive. You can also set CPU limits they will not be allowed to exceed.

*** Better performance**

Parallels improves the performance of its virtualization engine.

*** 8-way SMP**

Up to 8 CPUs can be assigned to a virtual machine, which results in a better performance of your virtual machines.

*** 64GB RAM support for a virtual machine**

A completely new memory allocation mechanism allows you to set up to 64 GB of RAM for any virtual machine.

*** Improved network capabilities**

Up to 16 network adapters can be connected to a virtual machine, which increases the network connection and data transmission speed.

*** Creating incremental backups**

Incremental backups can now be created using both Parallels command-line utilities and Parallels Management Console.

*** Accessing the guest OS command line**

You can now gain access to the command line of virtual machines directly from the Mac.

*** Parallels Management Console Improvements**

- Migrating and backing up virtual machines.
 - Displaying resources consumption for your Mac and virtual machines.
 - Configuring CPU units, CPU limit, and disk I/O priority.
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3. SYSTEM REQUIREMENTS

Parallels Server 4.0 for Mac Bare Metal Edition can be installed on a Mac having Intel VT-x support and complying with the requirements below.

- **Platform:**

Intel-powered Apple Xserve or Mac Pro is recommended.

- **CPU:**

1.5 GHz or higher processor (a 64-bit processor is required for launching 64-bit guest operating systems).

- **Memory:**

2 GB of RAM (4 GB recommended).

- **Hard disk space:**

3 GB of free disk space.

30 GB of free disk space for each virtual machine.

- **Network:**

Ethernet network adapter.

Valid IP address.

- **Other hardware:**

DVD-ROM drive. Parallels Server 4.0 for Mac Bare Metal Edition is distributed as a DVD image; so, your Mac must have a DVD-ROM drive to start the installation.

- **Operating system:**

Parallels Server 4.0 for Mac Bare Metal Edition is installed directly on the Mac's hardware and does not need any operating system for its functioning.

The actual number of virtual machines you can run on a Mac and their performance depend on the resources they require. In general, the more resources your Mac has, the more virtual machines you can run and the higher is the performance of each virtual machine.

4. SUPPORTED GUEST OPERATING SYSTEMS

Listed below are the operating systems that you can run in your Parallels virtual machines.

WINDOWS

- * Windows 7 (x32, x64)
- * Windows Server 2008 R2 (x32, x64)
- * Windows Vista with Service Pack 1 and 2 (x32, x64)
- * Windows XP with Service Pack 2 and 3 (x32, x64)
- * Windows Server 2003 R2 (x32, x64)
- * Windows 2000 with Service Pack 4 (x32, x64)

LINUX

- * Red Hat Enterprise Linux 5.3 (x32, x64)
- * Red Hat Enterprise Linux 4.7 (x32, x64)
- * CentOS 5.3 (x32, x64)
- * CentOS 4.7 (x32, x64)
- * Fedora 11 (x32, x64)
- * Fedora 10 (x32, x64)
- * SUSE Linux Enterprise Server 10 (x32, x64)
- * Debian GNU/Linux 5.0 (x32, x64)
- * Debian GNU/Linux 4.0 (x32, x64)
- * Ubuntu Linux 9.04 (x32, x64)
- * Ubuntu Linux 8.10 (x32, x64)

BSD

- * FreeBSD 7 (x32, x64)
- * FreeBSD 6 (x32, x64)

Mac OS X

- * Mac OS X 10.5 Server Leopard
 - * Mac OS X 10.6 Server Snow Leopard
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5. INSTALLING PARALLELS SERVER 4.0 FOR MAC BARE METAL EDITION

The installation procedure differs depending on whether you are installing Parallels Server 4.0 for Mac Bare Metal Edition on an Apple Xserve or any other Intel-powered Apple computer (e.g. a Mac Pro).

To install Parallels Server 4.0 for Mac Bare Metal Edition on an Intel-powered Apple computer, follow these steps:

Note: Use the DMG image for installing Parallels Server 4.0 for Mac Bare Metal Edition on Xserves only. Do not use it on Mac Pros and other Intel-powered Macs.

- 1 Switch on the Mac where you want to install Parallels Server 4.0 for Mac Bare Metal Edition.
 - 2 Configure the Mac to boot from the CD/DVD-ROM drive.
 - 3 Insert the DVD with the Parallels Server 4.0 for Mac Bare Metal Edition distribution set into the Mac's CD/DVD-ROM drive, and restart the Mac.
 - 4 When the Mac boots, press Enter to continue with the Parallels Server 4.0 for Mac Bare Metal Edition installation.
 - 5 Click **Next** to accept the Parallels end user license agreement and, in the displayed window, click **Agree** to confirm your decision.
 - 6 Enter the Parallels Server 4.0 for Mac Bare Metal Edition license, and click **Next**.
 - 7 Select the **Remove all partitions on selected drives and create default layout** radio button, click **Next**, and in the displayed window, click **Yes** to confirm your decision.
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Note: Selecting this option and clicking **Next** will remove all data on the selected drives.

- 8 In the **Network Configuration** window, click **Next** to accept the default network settings.
- 9 Set your time settings, and click **Next**.
- 10 Enter the password for the root account, and click **Install**.
- 11 Click **Reboot** to restart the Mac.

To install Parallels Server 4.0 for Mac Bare Metal Edition on an Apple Xserve, do the following:

- 1 Insert the CD or DVD for installing on Apple Xserves into the server's CD/DVD drive.
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Note: The DMG boot image burned to a DVD will not boot on Apple Xserve 3.1. Use a blank CD for burning the DMG image.

- 2 Press and hold the C key while the Xserve is booting.
- 3 In the **Installation Method** window, select the Local CDROM option, and click **OK**.

4 Once the necessary packages are installed, the CD is ejected automatically. Insert the DVD with Parallels Server 4.0 for Mac Bare Metal Edition installation files, and click **OK**.

5 Continue with the standard installation (see Steps 5-11 above).

Complete installation instructions on how to set up Parallels Server 4.0 for Mac Bare Metal Edition on a Mac are provided in the **Getting Started With Parallels Server 4.0 for Mac Bare Metal Edition** guide available on the Parallels web site.

6. STARTING TO WORK IN PARALLELS SERVER 4.0 FOR MAC BARE METAL EDITION

After you successfully install the product and restart the Mac, you will be provided with the instructions on how to start working in Parallels Server 4.0 for Mac Bare Metal Edition.

In general, you have two possibilities to work with Parallels Server 4.0 for Mac Bare Metal Edition:

- Using Parallels command line utilities
- Parallels Management Console

PARALLELS COMMAND LINE UTILITIES

Parallels Server 4.0 for Mac Bare Metal Edition provides a set of utilities that allow you to manage Parallels virtual machines both locally and remotely.

- *Connecting to Parallels Server 4.0 for Mac Bare Metal Edition Locally*

To manage your virtual machines locally, i.e. from the same Mac where Parallels Server 4.0 for Mac Bare Metal Edition is installed, do the following:

- a Press ALT+F1 on your Mac's screen to open a terminal window.
- b Type `root` as the user name and the password you provided when installing the product.

After you have successfully logged in to the Mac, you can start creating and managing your Parallels virtual machines using the following command line utilities:

* `pctl`: use this utility to perform day-to-day operations on your virtual machines.

* `pmigrate`: use this utility to perform different types of migration on Macs running Parallels Server 4.0 for Mac Bare Metal Edition.

* `pstat`: use this utility to collect statistics on your virtual machines.

For more information on these utilities, see their man pages or the *Parallels Command Line Reference Guide*.

- *Connecting to Parallels Server 4.0 for Mac Bare Metal Edition Remotely*

To connect to Parallels Server 4.0 for Mac Bare Metal Edition remotely, use the IP address that is indicated on your Mac's screen. For example, you can use a Secure Shell client to connect to your Mac. When logging in to the Mac, use the root user name and the password you provided when installing the product.

PARALLELS MANAGEMENT CONSOLE

If you prefer working with GUI tools, you can set up Parallels Management Console to remotely connect to Parallels Server 4.0 for Mac Bare Metal Edition.

To set up Parallels Management Console:

- a** Make sure that the computer where you are going to install Parallels Management Console meets the necessary system requirements.
- b** Download the Parallels Management Console installation file:
 - * Open your favorite browser and type the IP address of the Mac running Parallels Server 4.0 for Mac Bare Metal Edition.
 - * In the **Welcome** window, click the link corresponding to the system architecture where you want to install Parallels Management Console and download the installation file.
- c** Install Parallels Management Console.
- d** Launch Parallels Management Console and connect to the Mac.

For more information on these operations, refer to the *Getting Started With Parallels Server 4.0 for Mac Bare Metal Edition* guide.

7. KNOWN ISSUES AND RESTRICTIONS

The list of known issues for Parallels Server 4.0 for Mac Bare Metal Edition is given below.

- * Use the DMG image for installing Parallels Server 4.0 for Mac Bare Metal Edition on Xserves only. Do not use it on Mac Pros and other Intel-powered Macs. Otherwise, the installed system may become corrupted.
- * The DMG boot image burned to a DVD will not boot on Apple Xserve 3.1. Use a blank CD for burning the DMG image.
- * The Parallels Server 4.0 for Mac Bare Metal Edition installer may fail to detect the necessary drivers for some USB DVD-ROM drives.
- * The *prl_disk_resize* utility may work incorrectly with SUSE-based virtual disks.
- * Running the *pctl enter* and *pctl exec* commands in virtual machines (especially in Windows-based virtual machines) may produce an incorrect output or no output at all.
- * Migrating LVM physical volumes based on whole disks is not supported.
- * The process of starting services inside virtual machines running Linux operating systems may hang on launching the *udev* service. The problem was fixed in the 2.6.25 kernel. To work around this problem in earlier kernel versions, set the following kernel boot option:
clock=(pmtmr/acpi_pm)
- * The Parallels Tools installation may not start automatically for virtual machines created by migrating physical computers. To work around this problem, start the Parallels Tools installation manually.

- * The Parallels Tools installation may not start automatically if you are creating a virtual machine with Windows Vista and select the *Express Windows Installation* mode during the installation. To work around this problem, start the Parallels Tools installation manually.
- * Creating split virtual disks greater than 1.8 TB may fail.
- * Migrating a virtual machine between Macs may fail if the virtual machine has one or more CD/DVD-ROM drives connected to the client computer. To work around this problem, disable all CD/DVD-ROM drives connected to the client computer before starting the migration:
 1. Open Virtual Machine Configuration.
 2. Under **Hardware**, click the name of the CD/DVD-ROM drive to be disabled.
 3. Clear the **Enabled** check box, and click **OK**.
- * Running the 'time sleep' command with the same value in different virtual machines may take a different amount of time.
- * Starting a 'CentOS 5.3 x64'-based virtual machine the first time after installing Parallels Tools in it may take a rather long run.
- * When switching a virtual machine to the full screen mode, its screen resolution may change even if the "Keep the virtual machine's screen resolution in full screen" option is enabled in the virtual machine configuration.
- * Backing up a virtual machine to a mounted USB drive may fail.
- * Hibernating a virtual machine from inside its guest operating system may fail. As an alternative to hibernating a virtual machine, you can suspend it instead.
- * This version of Parallels Server 4.0 for Mac Bare Metal Edition does not support setting user passwords in virtual machines with Mac OS X. To set passwords in such virtual machines, use the 'pctl exec' functionality.
- * This version of Parallels Server 4.0 for Mac Bare Metal Edition does not support configuring network settings of virtual machines with Mac OS X. To configure the network settings of such virtual machines, use the 'pctl exec' functionality.
- * Creating incremental backups of virtual machines running Mac OS X is not supported.
- * The time in a virtual machine under heavy load may fall behind.
- * Sometimes, the DNS service may not start properly in a Windows virtual machine. To work around this problem, restart the virtual machine.
- * Virtual machines running Mac OS X and 12 CPUs assigned may fail to start. To work around this problem, reduce the number of assigned CPUs to 10.
- * Parallels Virtual Automation may fail to collect statistics for recently registered virtual machine. To work around this problem, restart the Parallels Virtual Automation service.
- * Parallels Virtual Automation cannot manage virtual machines running Mac OS X Snow Leopard.
- * Parallels Power Panel can manage Parallels virtual machines only if they are formatted as FAT32, NTFS, ext2, or ext3.

- * Parallels Management Console may sometimes consume a significant amount of memory. To fix this problem, restart Parallels Management Console.
 - * Parallels Management Console installed on Mac OS X may not remember Mac connection passwords even if you ask it to do so.
 - * Copying/pasting text to/from a virtual machine using Parallels Management Console on a Linux computer may not work.
 - * Installing Parallels Server 4.0 for Mac Bare Metal Edition on an Xserve with the Apple RAID Card is not supported.
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8. COPYRIGHT NOTICE

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9. CONTACT INFORMATION

Product website: <http://www.parallels.com/>