

Oracle® VM

Windows Paravirtual Drivers Installation Guide

Release 2.0 for Microsoft Windows

E15298-02

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This document is intended for users, and administrators of Oracle VM guests running the Microsoft Windows operating system. It includes a brief introduction of the Windows paravirtual (PV) drivers, how to install them, and describes potential issues and the corresponding workarounds you may encounter while using the drivers.

Oracle recommends that you read this document before installing and using the Windows PV drivers for Oracle VM.

This document may be updated after it is released. To check for updates to this document, and to view other Oracle documentation, refer to the Documentation section on the Oracle Technology Network (OTN) Web site:

<http://www.oracle.com/technology/documentation/>

This document includes the following topics:

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1 Overview of the Windows Paravirtual Drivers

The Windows PV drivers for Oracle VM provide a performance boost for network and block (disk) devices on Microsoft Windows guests running in a virtual environment on Oracle VM.

Download the Windows PV drivers from:

<http://edelivery.oracle.com/linux>

The Windows PV drivers installer installs paravirtualized drivers for block (disk) and network devices.

2 Supported Oracle VM Releases

The Windows PV drivers are supported in the guest operating systems listed in [Table 1, "Supported Guest Operating Systems"](#) running on Oracle VM Server Release 2.1.5 or higher.

3 Supported Guest Operating Systems

The Windows PV drivers are supported on the Microsoft Windows operating systems listed in [Table 1, "Supported Guest Operating Systems"](#).

Table 1 Supported Guest Operating Systems

Guest Operating System	X86 (32-bit)	X64 (64-bit)
Microsoft Windows Server 2003	Yes	Yes
Microsoft Windows Server 2008	Yes	Yes
Microsoft Windows Server 2008 R2	N/A	Yes
Microsoft Windows 7	Yes	Yes
Microsoft Windows Vista	Yes	Yes
Microsoft Windows XP	Yes	Yes

4 Installing the Windows PV Drivers

There are two procedures for installing the Windows PV drivers, depending on the guest's operating system.

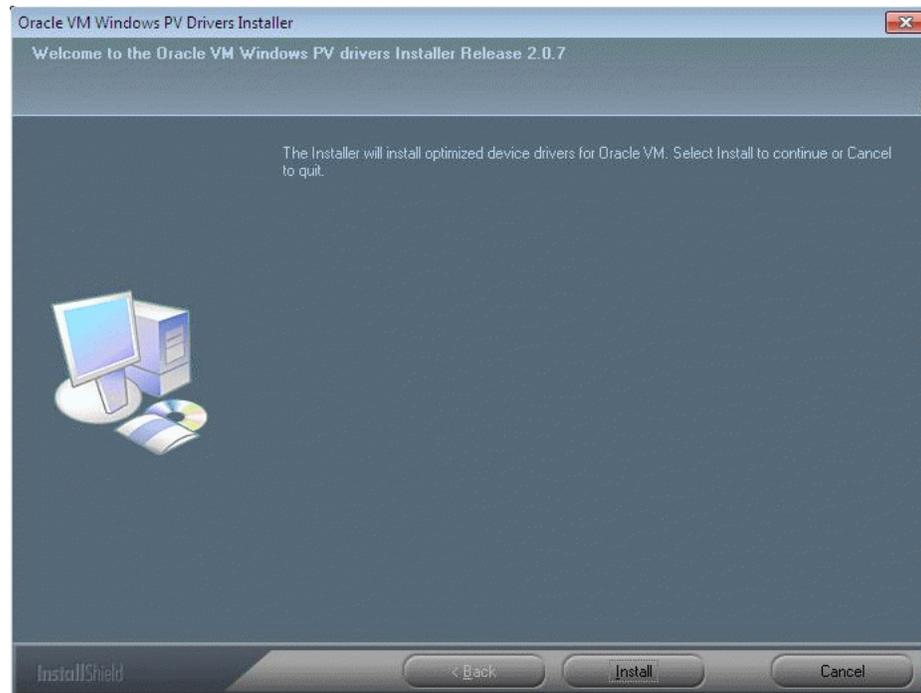
- [Installing Windows PV Drivers on Windows XP and Windows Server 2003](#)
- [Installing Windows PV Drivers on Windows Server 2008, Windows Server 2008 R2, Windows Vista, and Windows 7](#)

4.1 Installing Windows PV Drivers on Windows XP and Windows Server 2003

To install the Windows PV drivers:

1. Create a new guest with one of the following operating systems installed:
 - Windows Server 2003 (X86 or X64)
 - Windows XP (X86 or X64)
2. Install the .Net Framework 2.0 on the guest.
3. Copy the Windows PV drivers (Setup.exe) to the guest.
4. Double click the **Setup.exe** file to start the Windows PV drivers installer. The Start Install window is displayed.

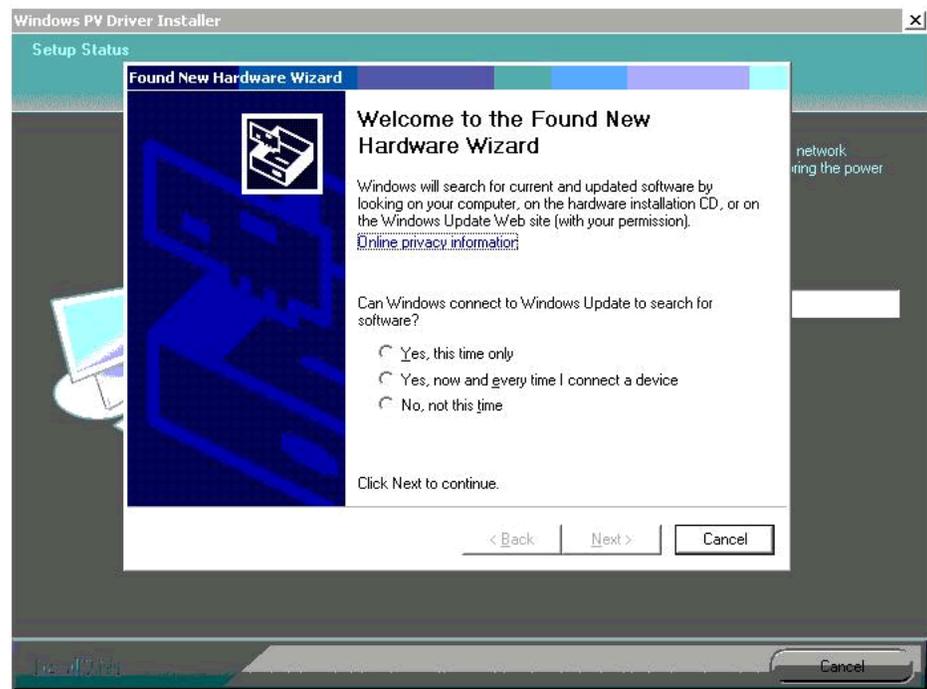
Figure 1 Start install window



The installer prompts you to start the install. Click **Install** to start the Windows PV drivers installation. The installer copies files to the guest and installs the Windows PV drivers.

5. Due to a known issue, on some operating systems the Found New Hardware Wizard is displayed behind the Windows PV drivers Installer window.

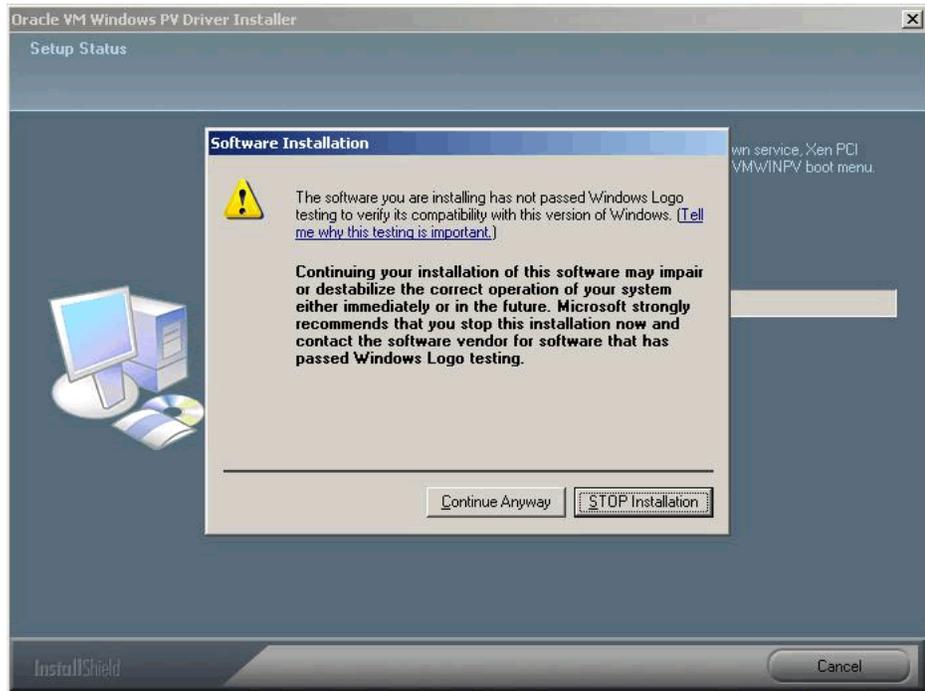
Figure 2 Found New Hardware Wizard



Click **Cancel** to ignore the wizard.

6. Due to a known issue, the Software Installation window is displayed warning the driver has not been signed by Microsoft.

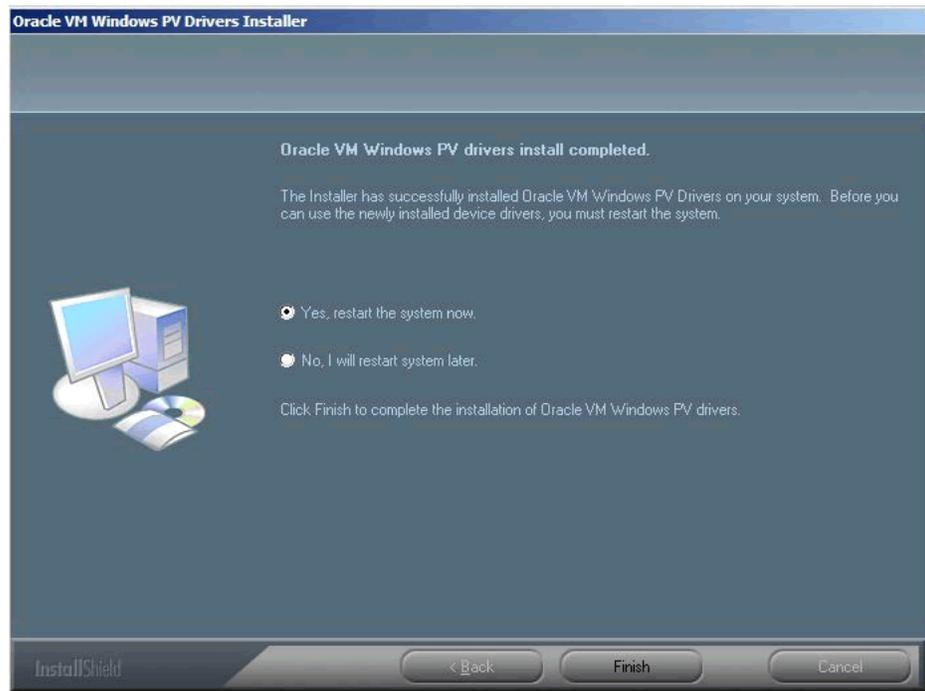
Figure 3 Software Installation window



Click **Continue Anyway**.

7. You are prompted to restart the guest.

Figure 4 Installation complete window



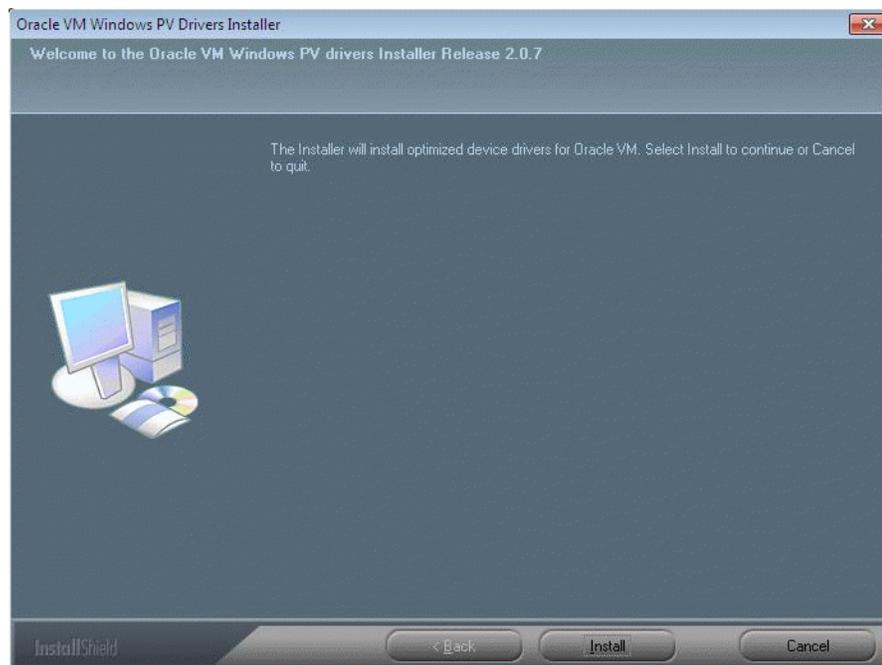
Check **Yes**, **restart the system now** and click **Finish**. The guest is restarted.

4.2 Installing Windows PV Drivers on Windows Server 2008, Windows Server 2008 R2, Windows Vista, and Windows 7

To install the Windows PV drivers:

1. Create a new guest with one of the following operating systems installed:
 - Windows Server 2008 (X86 or X64)
 - Windows Server 2008 R2 (X64)
 - Windows Vista (X86 or X64)
 - Windows 7 (X86 or X64)
2. Copy the Windows PV drivers (Setup.exe) to the guest.
3. Double click the **Setup.exe** file to start the Windows PV drivers installer. The Start Install window is displayed.

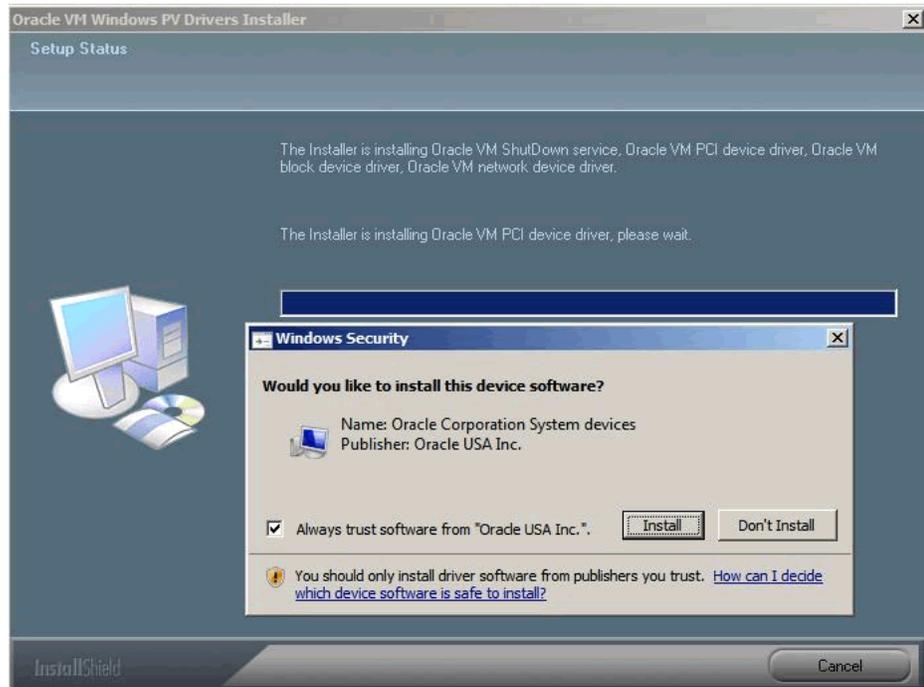
Figure 5 Start install window



The installer prompts you to start the install. Click **Install** to start the Windows PV drivers installation. The installer copies files to the guest and installs the Windows PV drivers.

4. The Windows Security window is displayed and prompts you to confirm the installation of the paravirtual device drivers and trust the certificate from Oracle.

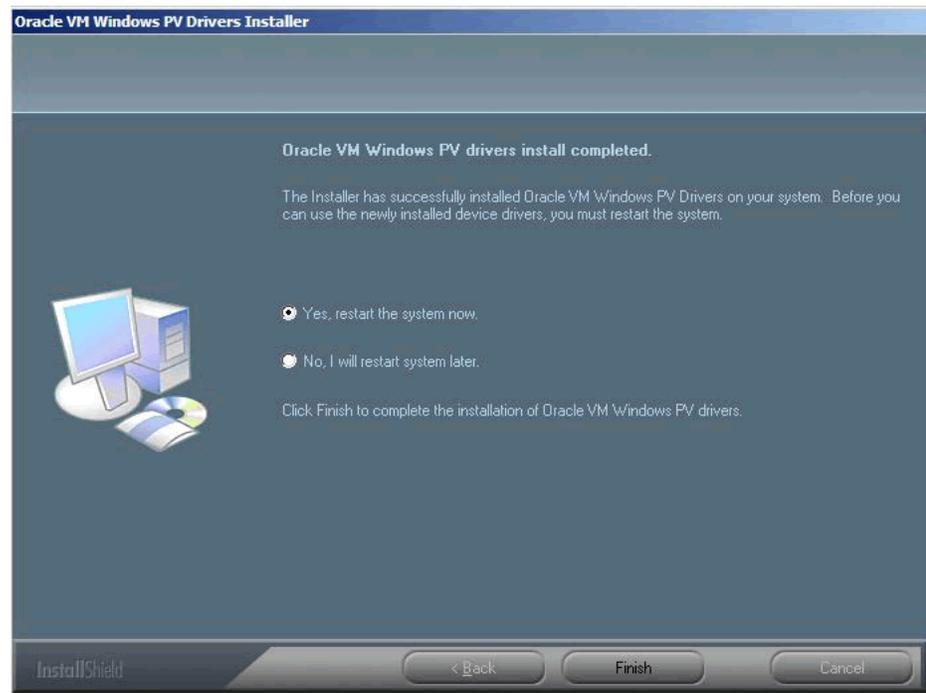
Figure 6 Windows Security window



Check **Always trust software from "Oracle USA Inc."** and select **Install**.

5. The installer copies the Windows PV drivers files, and installs the drivers in the guest. The Installation Complete window is displayed.

Figure 7 Installation Complete window



Check **Yes, restart the system now** and click **Finish**. The guest is restarted.

5 Uninstalling Windows PV Drivers

To uninstall the Windows PV drivers, run the Windows PV driver installer (Setup.exe). Do not use the **Add/Remove Software** in the Windows **Control Panel** as this does not properly remove all the registry keys and system configuration.

6 Known Limitations and Workarounds

This section contains information on known limitations and workarounds for the Windows PV drivers:

- [Empty CD-ROM Device Disappears after PV Driver Installation](#)
- [Problem Resuming from Hibernation](#)
- [Found New Hardware Window Displayed During Installation or Uninstallation](#)
- [Network Devices May Fail](#)
- [Guest Cannot Use More Than Eight VCPUs](#)
- [.Net Framework 2.0 Required on Some Operating Systems](#)

6.1 Empty CD-ROM Device Disappears after PV Driver Installation

Some old versions of the OVM Manager add an invalid CD-ROM entry like ' , hdc : cdrom , r ' in the `vm . cfg` file. On a system without Windows PV drivers ,this device shows up as a CD-ROM device without any media. After Windows PV drivers

are installed, that CD-ROM device disappears, because the Windows PV driver ignores CD-ROM device without any media.

Workaround: Set a proper ISO image file path in the CD-ROM entry in the `vm.cfg` file, or use OVM Manager to attach a valid CD-ROM ISO file to the Windows system. The PV CD-ROM device then is available in Windows Device Manager.

6.2 Problem Resuming from Hibernation

Release 2.0 of the Windows PV drivers supports the hibernate feature. Set a constant mac address, such as `mac= '00:16:EE:FF:A1:81'` in the VIF entry of the `vm.cfg` file, otherwise the PV network device may not work after resuming from hibernation.

6.3 Found New Hardware Window Displayed During Installation or Uninstallation

During the installation or uninstallation of the Windows PV drivers, the Found New Hardware window is displayed when the guest restarts.

Workaround: Click **Cancel** to ignore the message and close the window.

6.4 Network Devices May Fail

If you install the Windows PV drivers into a guest with the `vif type` set to `ioemu` in the guest configuration file (`vm.cfg`), the network device(s) may fail. The Windows Device Manager displays an error code 10 and an exclamation point (!) to show the network driver cannot be started.

This is caused by the network type being set incorrectly in the guest configuration file. The network card type can be set three ways:

- `type=ioemu`: Network card is available in QEMU mode only.
- `type=netfront`: Network card is available in paravirtualized mode.
- No type entry: Network card is available in both QEMU and paravirtualized modes.

Workaround:

The issue is only applicable to Oracle VM Server 2.1.5 and does not apply to Oracle VM Server 2.2 or later.

If this issue occurs, change the network `type` from `ioemu` to `netfront` in the guest configuration file. Alternatively, delete the network `type` entry. You can make this change using Oracle VM Manager, or manually. To change the configuration manually:

1. Shut down the guest.
2. Edit the guest configuration file (`vm.cfg`) and change the `type=ioemu` entry to `type=netfront`, or delete the entry.
3. Restart the guest.

The network driver is started.

6.5 Guest Cannot Use More Than Eight VCPUs

If you use the Windows PV drivers, the maximum number of virtual CPUs (VCPUs) is eight.

6.6 .Net Framework 2.0 Required on Some Operating Systems

Some operating systems require the .Net Framework 2.0 be installed on the guest before you install the Windows PV drivers. The affected operating systems are:

- Windows Server 2003 (X86 and X64)
- Windows XP (X86 and X64)

Download the Microsoft .NET Framework Version 2.0 Redistributable Package (x86) from:

<http://www.microsoft.com/downloads/details.aspx?familyid=0856EACB-4362-4B0D-8EDD-AAB15C5E04F5&displaylang=en>

Download the Microsoft .NET Framework Version 2.0 Redistributable Package (x64) from:

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