

Oracle Linux

Oracle VirtIO Drivers for Microsoft Windows for Use With KVM



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Preface

[Oracle Linux: Oracle VirtIO Drivers for Microsoft Windows for Use With KVM](#) describes how to install, use, and troubleshoot the Oracle VirtIO Drivers for Microsoft Windows. These instructions are intended for users and administrators of guests that are running the Microsoft Windows operating system in virtualized environments, where KVM is the hypervisor.

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <https://www.oracle.com/corporate/accessibility/>.

For information about the accessibility of the Oracle Help Center, see the Oracle Accessibility Conformance Report at <https://www.oracle.com/corporate/accessibility/templates/t2-11535.html>.

Access to Oracle Support for Accessibility

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit <https://www.oracle.com/corporate/accessibility/learning-support.html#support-tab>.

Diversity and Inclusion

Oracle is fully committed to diversity and inclusion. Oracle respects and values having a diverse workforce that increases thought leadership and innovation. As part of our initiative to build a more inclusive culture that positively impacts our employees, customers, and partners, we are working to remove insensitive terms from our products and documentation. We are also mindful of the necessity to maintain compatibility with our customers' existing

technologies and the need to ensure continuity of service as Oracle's offerings and industry standards evolve. Because of these technical constraints, our effort to remove insensitive terms is ongoing and will take time and external cooperation.

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About Oracle VirtIO Drivers for Microsoft Windows

The Oracle VirtIO Drivers for Microsoft Windows are paravirtualized drivers for Microsoft Windows guests that run on KVM hypervisors; these drivers improve performance for network and block (disk) devices on Microsoft Windows guests and resolve common issues.

Features in 2.1.0

The Oracle VirtIO Drivers for Microsoft Windows 2.1.0 provides:

- An updated installer which includes better messaging and improved workflows for unsupported platforms.
- Support for the VirtIO GPU driver that drives the VirtIO VGA display device designed for virtual machines. VirtIO GPU supports system power state S3. You can suspend and wake up the Windows system that uses the VirtIO VGA device.
- Bug fixes for the VirtIO storage and network drivers.

Features in 2.0.1

Release 2.0.1 of the Oracle VirtIO Drivers for Microsoft Windows fixes an issue that caused migration failure when changing from non-KVM environments, such as VMWare or Hyper-V, to KVM environments, such as Oracle Cloud Infrastructure.

Features in 2.0

The primary focus in release 2.0 of the Oracle VirtIO Drivers for Microsoft Windows is an improvement in network and block performance. Also, a significant number of bugs are resolved in this update and the codebase aligns more closely to the upstream release of these drivers. The update also facilitates the coexistence of third-party vendor drivers that previously resulted in conflicts and issues.

Supported Releases, Operating Systems, and Configuration Limits

The following information pertains to the Oracle Linux and Oracle Cloud Infrastructure releases that are supported with the Oracle VirtIO Drivers for Microsoft Windows, in addition to the supported operating systems for each version of the Oracle VirtIO Drivers for Microsoft Windows.

Information about Microsoft Windows compatibility signing and details on tested and recommended configuration limits for the Oracle VirtIO Drivers for Microsoft Windows is also provided.

Supported Environments

The Oracle VirtIO Drivers for Microsoft Windows Release 2.1.0 are supported on the following environments and platforms:

- Oracle Cloud Infrastructure
- Oracle Linux 7
- Oracle Linux 8
- Oracle Linux 9

Supported Guest Operating Systems

The following table lists the supported Microsoft Windows operating systems for the Oracle VirtIO Drivers for Microsoft Windows.

Table 1-1 Microsoft Windows Supported Guest Operating Systems

Guest Operating System	64-bit	32-bit
Microsoft Windows Server 2022	Yes	N/A
Microsoft Windows Server 2019	Yes	N/A
Microsoft Windows Server 2016	Yes	N/A
Microsoft Windows Server 2012 R2	Yes	N/A
Microsoft Windows Server 2012	Yes	N/A
Microsoft Windows 11	Yes	Yes
Microsoft Windows 10	Yes	Yes
Microsoft Windows 8.1	Yes	Yes
Microsoft Windows 8	Yes	Yes

▲ Caution:

Microsoft Windows 8 is no longer supported by Microsoft. See <https://docs.microsoft.com/en-us/lifecycle/products/windows-8> for more information.

Microsoft Windows 8.1 falls out of extended support by Microsoft in January 2023. See <https://docs.microsoft.com/en-us/lifecycle/products/windows-81> for more information.

 **Note:**

For information about the supported Microsoft Windows operating systems for the Oracle VirtIO Drivers for Microsoft Windows in the Oracle Cloud Infrastructure environment, see <https://docs.oracle.com/iaas/Content/Compute/References/bringyourownimage.htm>.

Virtual Machine Configuration

Virtual machine configuration for the Oracle VirtIO Drivers for Microsoft Windows complies with shape configurations for virtual machines in the Oracle Cloud Infrastructure environment. For more information, see: <https://www.oracle.com/cloud/compute/virtual-machines/>.

Microsoft Windows Compatibility Signing

The following table shows the Microsoft Windows operating systems for which the Oracle VirtIO Drivers for Microsoft Windows have been signed and certified. Oracle has also tested the drivers to ensure they work as expected. Additional information on the certifications can be found at the [Windows Server Catalog](#).

Table 1-2 Microsoft Windows Compatibility Signing

Guest Operating System	Signed and Certified by Microsoft	Tested by Oracle to Operate Successfully
Microsoft Windows Server 2022	Yes	Yes
Microsoft Windows Server 2019	Yes	Yes
Microsoft Windows Server 2016	Yes	Yes
Microsoft Windows Server 2012 R2	Yes	Yes
Microsoft Windows Server 2012	Yes	Yes
Microsoft Windows 11	Yes	Yes
Microsoft Windows 10	No	Yes
Microsoft Windows 8.1	No	Yes
Microsoft Windows 8	No	Yes

 **Note:**

A security alert occurs during installation on a Windows operating system for which Oracle VirtIO Drivers for Microsoft Windows are not signed.

Discontinued Platforms

The following Windows platforms have reached the end of their product life cycle with Microsoft and are no longer supported or included in the VirtIO drivers:

- Microsoft Windows Server 2008 R2
- Microsoft Windows Server 2008 SP2
- Microsoft Windows Server 2008
- Microsoft Windows Server 2003 R2
- Microsoft Windows Server 2003
- Microsoft Windows 2000
- Microsoft Windows NT 4.0
- Microsoft Windows 7
- Microsoft Windows 7 SP1
- Microsoft Windows Vista
- Microsoft Windows XP

2

Downloading the Oracle VirtIO Drivers for Microsoft Windows

Before you can install the Oracle VirtIO Drivers for Microsoft Windows you must download them from [Oracle Software Delivery Cloud](#) or [My Oracle Support \(MOS\)](#).

To download the Oracle VirtIO Drivers for Microsoft Windows from Oracle Software Delivery Cloud:

1. Navigate to <https://edelivery.oracle.com> and log in.
2. Search for **Oracle Linux**.
3. Select **DLP: Oracle Linux 8.8.0.0.0 (Oracle Linux)**, or **DLP: Oracle Linux 9.2.0.0.0 (Oracle Linux)**.

Important:

If you are using Oracle Linux 7, select either package.

4. Click **Continue**.
5. In the **Platforms / Languages** column, select **Microsoft Windows x64 (64 bit)** in the list and then click **Continue**.
6. Review and accept the Oracle License Agreement and then click **Continue**.
7. Click the file name that has the description: **Oracle VirtIO Drivers for Microsoft Windows, Version 2.1.0**, and save it to your system.

To download the Oracle VirtIO Drivers for Microsoft Windows from MOS:

1. From the MOS home page, click the **Patches & Updates** tab.
2. From the **Patch Search** options, enter **27637937** in the **Patch Name or Number** field and then click **Search**. Don't select any of the **Platform** options.
3. In the search results table, click the **27637937** Patch Name that corresponds to the **Oracle VirtIO Drivers for Microsoft Windows, Version 2.1.0**, which is shown in the Description field.
4. From the **Patch Details** page, click **Download**.
The **File Download** window opens.
5. Click the link for the zip file and save it to your system.

3

Installing the Oracle VirtIO Drivers for Microsoft Windows

Installing the Oracle VirtIO Drivers for Microsoft Windows involves configuring Microsoft Windows policies, running the installation program, and then verifying the installation.

Installing the Oracle VirtIO Drivers for Microsoft Windows on Existing Microsoft Windows Guests

To install the Oracle VirtIO Drivers for Microsoft Windows on existing Microsoft Windows guests, perform the following procedures.

Configuring Policies for Device Installation

Configure Microsoft Windows policies to allow the installation of the Oracle VirtIO Drivers for Microsoft Windows, if these policies are not already configured. This task prevents the following error from occurring during an installation:

```
The installation of this device is forbidden by system policy.  
Contact your system administrator.
```

To configure policies for installation:

1. Open the Microsoft Windows virtual machine on which you want to install the Oracle VirtIO Drivers for Microsoft Windows.
2. From the **Start menu**, select **Run**.
3. Enter `gpedit.msc` and then click **OK**.
The **Local Group Policy Editor** is displayed.
4. From the **Console Tree**, display the list of device installation restrictions (**Device Installation Restrictions**) as follows:
 - a. Expand **Computer Configuration**, and then expand **Administrative Templates**.
 - b. Expand **System**, and then expand **Device Installation**.
 - c. Select **Device Installation Restrictions**.
5. Edit the policy settings so that no device installation restrictions are configured.
Alternatively, review each policy setting to determine the correct configuration for your business needs.
6. Close the **Local Group Policy Editor**.
7. Restart the Microsoft Windows virtual machine.

When you are finished configuring the policy settings for device installation, you can proceed with the installation of the Oracle VirtIO Drivers for Microsoft Windows.

Installing Oracle VirtIO Drivers for Microsoft Windows

Before You Begin

Do the following before you start the installation process:

- Obtain the Oracle VirtIO Drivers for Microsoft Windows from Oracle Software Delivery Cloud or MOS. See [Downloading the Oracle VirtIO Drivers for Microsoft Windows](#).
- Review the list of supported Microsoft Windows operating systems and any prerequisite hotfixes. See [Supported Guest Operating Systems](#).
- Configure system policies to allow the installation. See [Configuring Policies for Device Installation](#).



Note:

If you are migrating Windows guests from Oracle Cloud Infrastructure Classic to Oracle Cloud Infrastructure, the installer copies the Oracle VirtIO Drivers for Microsoft Windows files, installs the drivers on the guest, and configures the guest to support migration from Oracle Cloud Infrastructure Classic to Oracle Cloud Infrastructure.

You can install the Oracle VirtIO Drivers for Microsoft Windows by using the GUI installation program or by performing a silent installation. Use the graphical installation program if you are installing a single instance of the Oracle VirtIO Drivers for Microsoft Windows. If you plan to silently install multiple instances of the Oracle VirtIO Drivers for Microsoft Windows, you must run the GUI installation program in a command line window on at least one Microsoft Windows guest to create a response file. You can then use the response file to perform all subsequent installations silently.

To install the Oracle VirtIO Drivers for Microsoft Windows:

1. Copy the Oracle VirtIO Drivers for Microsoft Windows installation program **Setup.exe** to the guest.
2. Start the installation by running **Setup.exe** in one of the following ways:
 - To perform a single installation, double-click `Setup.exe` to start the Oracle VirtIO Drivers for Microsoft Windows installer.
 - To record a response file for automated installations on multiple systems:
 - a. Open a command line window.
 - b. Navigate to the directory where the **Setup.exe** file is located.
 - c. Run `Setup.exe -r` to start the Oracle VirtIO Drivers for Microsoft Windows installer and create a response file for silent installations.
3. If prompted, select **Yes** in the **User Account Control** dialog to allow the Oracle VirtIO Drivers for Microsoft Windows installer to proceed.
The **Welcome** window is displayed.
4. Click **Next**.

The **Start to install Oracle VirtIO Drivers for Microsoft Windows Release 2.1.0** window is displayed with information about your selection.

5. Click **Install** to start the installation.

The installer copies the Oracle VirtIO Drivers for Microsoft Windows files and installs the drivers on the guest.

6. After the installation completes, click **Finish**.

The virtual machine is restarted.

Note:

If you are migrating Windows guests from Oracle Cloud Infrastructure Classic to Oracle Cloud Infrastructure, shut down the Windows guest VM in the Oracle Cloud Infrastructure Classic environment and then start the Windows guest VM in the Oracle Cloud Infrastructure environment.

The Oracle VirtIO Drivers for Microsoft Windows are installed in the following directories:

- On 32-bit systems: `C:\Program Files\Oracle Corporation\Oracle Windows VirtIO Drivers`
- On 64-bit systems: `C:\Program Files (x86)\Oracle Corporation\Oracle Windows VirtIO Drivers`

If you used the `-r` option in the command line, the installation program creates a response file in the `C:\Windows` directory. You then use the response file, `setup.iss`, to perform silent installations on other Microsoft Windows guests. See [Silently Installing or Upgrading the Oracle VirtIO Drivers for Microsoft Windows](#).

Installing the Oracle VirtIO Drivers for Microsoft Windows During Microsoft Windows Guest Installation

Before You Begin

Do the following before you start the installation process:

- Obtain the Oracle VirtIO Drivers for Microsoft Windows from Oracle Software Delivery Cloud or MOS. See [Downloading the Oracle VirtIO Drivers for Microsoft Windows](#).
- Review the list of supported Microsoft Windows operating systems and any prerequisite hotfixes. See [Supported Guest Operating Systems](#).

To install the Oracle VirtIO Drivers for Microsoft Windows during the installation of a Microsoft Windows guest, do the following:

1. Create the virtual machine, but do not start it.
2. Attach the Oracle VirtIO Drivers for Microsoft Windows ISO file to the virtual machine as an emulated IDE device. You can find the `winvirtio.iso` file in the Oracle VirtIO Drivers for Microsoft Windows zip file you downloaded.

Ensure that the Microsoft Windows installation ISO is attached to the virtual machine as the first IDE device. The Oracle VirtIO Drivers for Microsoft Windows ISO file is typically the second IDE device.

3. Start the virtual machine and begin the Microsoft Windows installation process.
4. When the disk or partition screen displays, follow the prompts to browse and load drivers.
5. Navigate to the appropriate driver location on the Oracle VirtIO Drivers for Microsoft Windows ISO file and then select them.

The contents of the Oracle VirtIO Drivers for Microsoft Windows ISO file are as follows:

```

autorun.inf      # File that automatically runs the installation program.
fwcfg           # Directory that contains the license file for fwcfg null
drivers.
Setup.exe       # The main graphical installation program.
NetKVM         # Directory that contains the license file for NetKVM
drivers.
pvpanic        # Directory that contains the license file for pvpanic
drivers.
viogpu         # Directory that contains the license file for viogpu
drivers.
vioscsi        # Directory that contains the license file for vioscsi
drivers.
vioserial      # Directory that contains the license file for vioserial
drivers.
viostore       # Directory that contains the license file for viostore
drivers.
vio            # Base directory for drivers.

vio/Common     # Fwcfg null drivers for all Windows versions.

vio/Win10      # Drivers for Windows 10, Windows 11, Windows Server 2016,
Windows Server 2019 and Windows Server 2022
vio/Win10/amd64 # 64-bit drivers.
vio/Win10/i386  # 32-bit drivers. {only Windows 10}

vio/Win8.1     # Drivers for Windows 8.1 and Windows Server 2012 R2.
vio/Win8.1/amd64 # 64-bit drivers.
vio/Win8.1/i386 # 32-bit drivers. (only Windows 8.1)

vio/Win8       # Drivers for Windows 8 and Windows Server 2012.
vio/Win8/amd64 # 64-bit drivers.
vio/Win8/i386  # 32-bit drivers. (only Windows 8)

```

6. Repeat the preceding step to install other drivers as necessary and then continue with the Microsoft Windows installation process.

After you install the Microsoft Windows guest, you must configure Microsoft Windows policies. See [Supported Guest Operating Systems](#).

Optional Configuration Changes

This section describes optional changes that can be made to the configuration after installation is complete.

 **Note:**

The optional configuration changes are only relevant if you completed a **Default** type of installation, are running Oracle Linux, and have control of the host system. If you have completed a **Custom** installation and migrated your VM from the OCI-C to Oracle Cloud Infrastructure environment, you do not have access to the host.

The changes that are described here require that the host system is running the latest supported virtualization packages, which are available in the `ol7_kvm_utils` Yum repository on the Oracle Linux yum server or in the `ol7_x86_64_kvm_utils` or `ol7_aarch64_kvm_utils` channels on ULN.

If you have not already done so, enable the appropriate channel or repository and install the packages from this location before proceeding. If you perform an upgrade of the virtualization packages, you might need to restart any running virtual machines for the changes to take effect.

Configuring Block Drivers

The Oracle VirtIO Drivers for Microsoft Windows provide block drivers that improve disk performance on Microsoft Windows guests. However, guests do not automatically start by using the Oracle VirtIO Drivers for Microsoft Windows storage drivers after installation. As a result, guests cannot use the paravirtualized storage drivers for boot disks. Configure each guest to use paravirtualized storage drivers instead of emulated disks after installation.

To configure block drivers after installation:

1. Ensure you have installed the Oracle VirtIO Drivers for Microsoft Windows.
2. Stop the guest if it is running.
3. Create a new temporary image that you can add to the guest as a second disk. For example, run:

```
sudo qemu-img create -f qcow2 disk_name.qcow2 1G
```
4. Add the disk you created to the guest.
5. Specify `virtio` as the bus type for the disk you added and then start the guest. Microsoft Windows locates the disk drivers and completes the installation at this point.
6. Change the bus type for the boot disk to `virtio` and then start the guest.

Microsoft Windows then installs the Oracle VirtIO Drivers for Microsoft Windows block driver on the boot disk.

7. Detach the temporary disk from the guest.

Setting the MTU Size for Virtual Machines

The Oracle VirtIO Drivers for Microsoft Windows override the maximum transmission unit (MTU) settings in the virtual network adapters for Microsoft Windows guests. After you have successfully installed and verified the Oracle VirtIO Drivers for Microsoft Windows, set the MTU for each guest as follows:

1. Open the Microsoft Windows virtual machine.

2. Open the control panel, then locate and open the **Device Manager** window.
3. Expand **Network adapters** and select the appropriate Oracle VirtIO Ethernet Adapter.
4. Right-click the adapter, select **Properties**, and then select the **Advanced** tab.
5. Select the **MTU** property and set the value as appropriate.
6. Click **OK** to save your changes.

4

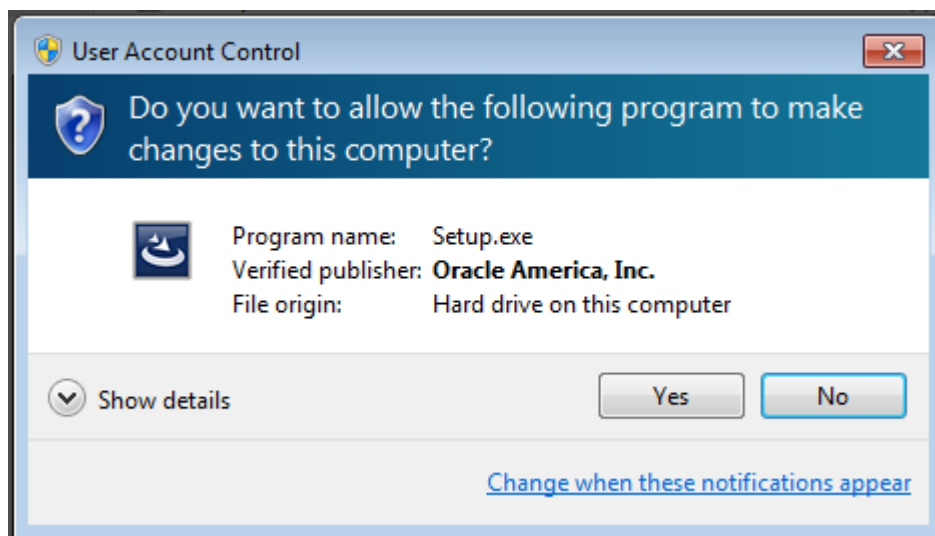
Upgrading the Oracle VirtIO Drivers for Microsoft Windows

You can upgrade an existing installation of the Oracle VirtIO Drivers for Microsoft Windows by using the GUI installation program or by performing a silent upgrade. Use the graphical installation program if you are upgrading a single instance of the Oracle VirtIO Drivers for Microsoft Windows. If you plan to silently upgrade multiple instances of the Oracle VirtIO Drivers for Microsoft Windows, you must run the graphical installation program in a command line window on at least one Microsoft Windows guest to create a response file. You can then use the response file to perform all subsequent upgrades silently.

To upgrade the Oracle VirtIO Drivers for Microsoft Windows:

1. Copy the Oracle VirtIO Drivers for Microsoft Windows installation program, `Setup.exe`, to the guest.
2. Do one of the following:
 - Double-click `Setup.exe` to begin the upgrade.
 - Open a command line window and then do the following:
 - a. Navigate to the directory where the `Setup.exe` file is located.
 - b. Run the `Setup.exe -r` command to begin the upgrade and create a response file for silent installations.
3. If prompted, select **Yes** in the **User Account Control** dialog to allow the Oracle VirtIO Drivers for Microsoft Windows installer to proceed.

Oracle VirtIO Drivers for Microsoft Windows user account control dialog



The initial upgrade window is displayed.

4. Click **Next** to start the upgrade.

The installation program then copies new versions of the Oracle VirtIO Drivers for Microsoft Windows to the system and updates the installed drivers. The **Update Complete** window is displayed.

5. Click **Yes, I want to restart the system now** and then click **Finish** to restart the virtual machine.

If you used the `-r` option in the command line, the installation program creates a response file in the `C:\Windows` directory. You then use the response file, `setup.iss`, to perform silent upgrades on other Microsoft Windows guests. See [Silently Installing or Upgrading the Oracle VirtIO Drivers for Microsoft Windows](#).

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Silently Installing or Upgrading the Oracle VirtIO Drivers for Microsoft Windows

You can use a response file that you create with the graphical installation program to silently install or upgrade the Oracle VirtIO Drivers for Microsoft Windows. The response file provides the prompts that the installation program requires to successfully install or upgrade the Oracle VirtIO Drivers for Microsoft Windows.

! Important:

- Oracle VirtIO Drivers for Microsoft Windows must be signed by Microsoft to perform a silent installation or upgrade. See [Microsoft Windows Compatibility Signing](#).
- You can perform a silent installation or upgrade only on 64-bit versions of Microsoft Windows later than Windows Vista. You cannot perform a silent installation or upgrade on any 32-bit version of Microsoft Windows.

To install or upgrade the Oracle VirtIO Drivers for Microsoft Windows silently:

1. Complete at least one installation or upgrade of the Oracle VirtIO Drivers for Microsoft Windows by using the GUI installation program to create a response file. See [Installing Oracle VirtIO Drivers for Microsoft Windows](#) or [Upgrading the Oracle VirtIO Drivers for Microsoft Windows](#).
2. Locate the response file, `setup.iss`, in the `C:\Windows` directory on the file system of the computer where you ran the graphical installation program.
3. Copy `setup.iss` to the same directory as the Oracle VirtIO Drivers for Microsoft Windows installation program. Alternatively you can specify the location of the response file at the command line.
4. Open a command line window.
5. Run the `Setup.exe -s` command to silently install or upgrade the Oracle VirtIO Drivers for Microsoft Windows with the response file.

You can include the following options at the command line:

- `-f1c:path\to\setup.iss` to specify the location of `setup.iss`.
For example, `Setup.exe -s -f1c:\Users\Username\setup.iss`.
- `-f2c:path\to\setup.log` to specify the location of `setup.log`. By default, log files are written to the `C:\Windows` directory, for example, `Setup.exe -s -f2c:\Users\Username\setup.log`.

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Uninstalling the Oracle VirtIO Drivers for Microsoft Windows

You can uninstall the Oracle VirtIO Drivers for Microsoft Windows through the Microsoft Windows control panel or by running the installation program that you used to install the Oracle VirtIO Drivers for Microsoft Windows.

To uninstall through the Microsoft Windows control panel:

1. Open the control panel and navigate to the **Uninstall or change a program** section.
Note that the name of this section might be different, depending on your version of Microsoft Windows.
2. Locate, then select the Oracle VirtIO Drivers for Microsoft Windows.
3. Right-click the **Uninstall** option.
The installation program starts and prompts you to confirm the uninstallation.
4. Select **Yes** when prompted to remove the application.
The installation program removes the Oracle VirtIO Drivers for Microsoft Windows and deletes the binaries from your system.
5. When prompted, select **Yes, restart the system** and then click **Finish** to complete the uninstallation.

To uninstall with the installation program:

1. Double-click `Setup.exe` to start the Oracle VirtIO Drivers for Microsoft Windows installer.
The installation program starts and prompts you to modify the current installation. You are able to select either **Repair** or **Remove**.
2. Select **Remove** and then click **Next**.
3. Select **Yes** from the pop-up dialog.
The installation program removes the Oracle VirtIO Drivers for Microsoft Windows and deletes the binaries from your system.
4. When prompted, select **Yes, restart the system** and then click **Finish** to complete the uninstallation.

7

Known Limitations and Workarounds

The following are known limitations and workarounds.

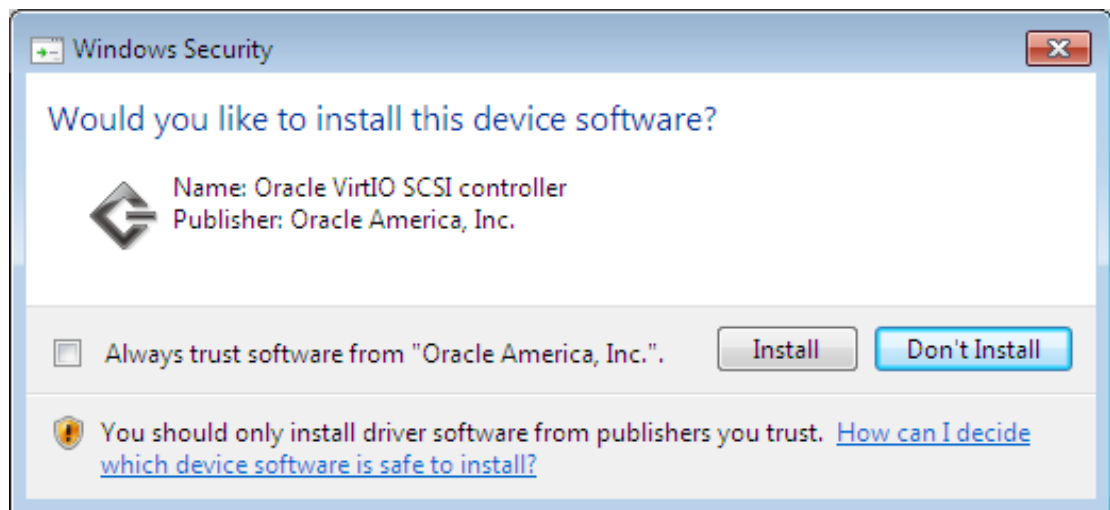
Security Alert for Unsigned Drivers

The Oracle VirtIO Drivers for Microsoft Windows are not signed by Microsoft for 32-bit Microsoft Windows operating systems.

Security Alert on 32-bit Microsoft Windows Operating Systems

On 32-bit Microsoft Windows operating systems, the installer displays security alerts such as the following for each driver:

Windows Security Alert



To continue with the installation, select **Install**.

Microsoft Windows Server 2012 Data Center Guests With Failover Clustering Cannot Get IP Address

A Microsoft Windows Server 2012 data center guest may fail to get an IP address from a DHCP server or encounter a UDP connection failure after installing the Windows Server Failover Clustering feature and restarting the guest.

 **Note:**

This issue does not apply to Microsoft Windows Server 2012 R2. The issue affects only Microsoft Windows Server 2012.

Workaround:

- Install the following hotfix to correct this issue: <https://support.microsoft.com/en-us/help/3062586>.
- If you experience further Windows Server Failover Clustering failures with Microsoft Windows Server 2012, see Recommended hotfixes and updates for Windows Server 2012-based clusters on Microsoft Support at: <https://support.microsoft.com/en-us/help/2784261>.