

# Windows VirtIO Drivers

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## Introduction

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VirtIO Drivers are paravirtualized drivers for kvm/Linux (see <http://www.linux-kvm.org/page/Virtio>). In short, they enable direct (paravirtualized) access to devices and peripherals for virtual machines using them, instead of slower, emulated, ones.

A quite extended explanation about VirtIO drivers can be found here <http://www.ibm.com/developerworks/library/l-virtio>.

At the moment these kind of devices are supported:

- block (disks drives), see [Paravirtualized Block Drivers for Windows](#)
- network (ethernet cards), see [Paravirtualized Network Drivers for Windows](#)
- balloon (dynamic memory management), see [Dynamic Memory Management](#)

You can maximize performances by using VirtIO drivers. The availability and status of the VirtIO drivers depends on the guest OS and platform.

## Windows OS Support

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Windows does not have native support for VirtIO devices included. But, there is excellent external support through opensource drivers, which are available compiled and signed for Windows:

<https://fedorapeople.org/groups/virt/virtio-win/direct-downloads/archive-virtio/?C=M;O=D>

Note that this repository provides not only the most recent, but also many older versions. Those older versions can still be useful when a Windows VM shows instability or incompatibility with a newer driver version.

The binary drivers are digitally signed by Red Hat, and will work on 32-bit and 64-bit versions of Windows

## Installation

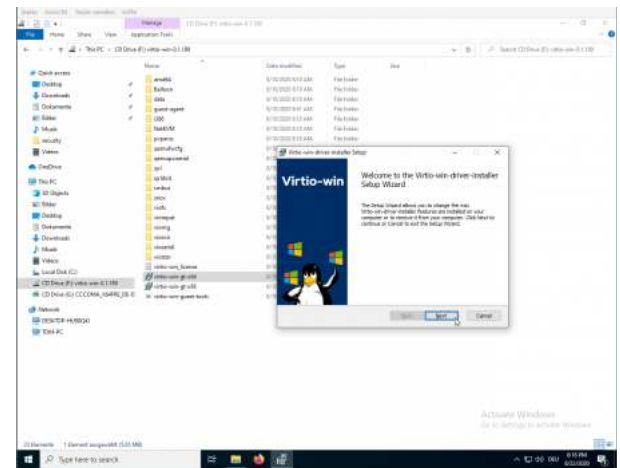
### Using the ISO

You can download the latest stable (<https://fedorapeople.org/groups/virt/virtio-win/direct-downloads/stable-virtio/virtio-win.iso>) or you can download the most recent (<https://fedorapeople.org/groups/virt/virtio-win/direct-downloads/latest-virtio/virtio-win.iso>) build of the ISO. Normally the drivers are pretty stable, so one should try out the most recent release first.

You can access the ISO in a VM by mounting the ISO with a virtual CD-ROM/DVD drive on that VM.

### Wizard Installation

You can use an easy wizard to install all, or a selection, of VirtIO drivers.



Wizard Installation

1. Open the Windows Explorer and navigate to the CD-ROM drive.
2. Simply execute (double-click on) **virtio-win-gt-x64**
3. Follow its instructions.
4. (Optional) use the **virtio-win-guest-tools** wizard to install the QEMU Guest Agent and the SPICE agent for an improved remote-viewer experience.
5. Reboot VM

### Manual Installation

1. Open the Windows Explorer and navigate to the CD-ROM drive.  
There you can see that the ISO consists of several directories, each having sub-directories for supported OS version (for example, 2k19, 2k12R2, w7, w8.1, w10, ...).
  - Balloon
  - guest-agent
  - NetKVM
  - qxl
  - vioscsi
  - ...
2. Navigate to the desired driver directories and respective Windows Version
3. Right-click on the file with type "Setup Information"
4. A context menu opens, select "Install" here.
5. Repeat that process for all desired drivers
6. Reboot VM.

### Downloading the Wizard in the VM

You can also just download the most recent (<https://fedorapeople.org/groups/virt/virtio-win/direct-downloads/latest-virtio/>) virtio-win-gt-x64.msi or virtio-win-gt-x86.msi from inside the VM, if you have already network access.

Then just execute it and follow the installation process.

## Troubleshooting

Try an older version of the drivers first, if that does not help ask in one of our support channels: [https://pve.proxmox.com/wiki/Get\\_support](https://pve.proxmox.com/wiki/Get_support)

## Further Reading

<https://docs.fedoraproject.org/en-US/quick-docs/creating-windows-virtual-machines-using-virtio-drivers/index.html>

<http://www.linux-kvm.org/page/WindowsGuestDrivers>

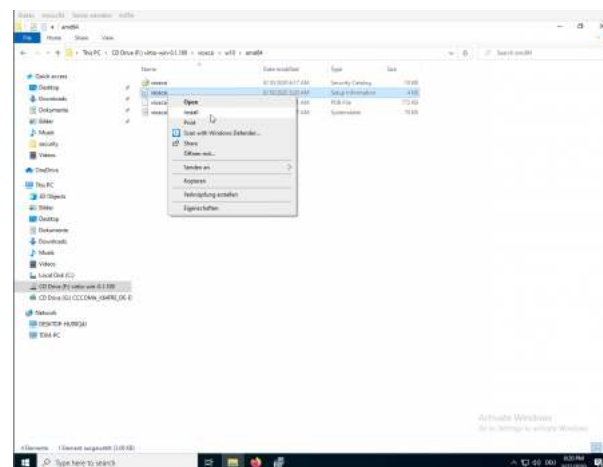
The source code of those drivers can be found here: <https://github.com/virtio-win/kvm-guest-drivers-windows>

[http://www.linux-kvm.org/page/WindowsGuestDrivers/Download\\_Drivers](http://www.linux-kvm.org/page/WindowsGuestDrivers/Download_Drivers)

## See also

- [Paravirtualized Block Drivers for Windows](#)
- [Paravirtualized Network Drivers for Windows](#)
- [Dynamic Memory Management](#)

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Manual Installation

**This page was last edited on 28 August 2023, at 11:19.**