

# vms pci passthrough

Using vms for pci passthrough. This example is for a graphics card, but it will work for any PCI device. This has been tested for qemu guests running linux, Windows and macOS.

## Setup the virtual machine

Install vms and setup a virtual machine as described here

<https://docs.slackware.com/howtos/emulators/vms>

Continue and install the guest OS. Install any updates on the guest OS you want. Things are easier to troubleshoot when the guest is setup and updated without the passthrough

## PCI passthrough

It is easier and more trouble free to have a regular emulated standard vga for qemu and use the real graphics card as a second one for the guest.

For AMD systems add these kernel options to the append line in /etc/lilo.conf

```
iommu=pt iommu=1
```

For Intel systems add this kernel option to the append line in /etc/lilo.conf

```
intel_iommu=on
```

Restart the host, then find the device you want to passthrough, eg.

```
# lspci | grep VGA  
07:00.0 VGA compatible controller: Advanced Micro Devices, Inc...
```

The interesting part is 07:00.0

Setup the 07:00.0 card for vfio-pci like this as root

```
/usr/sbin/vfio-bind 07:00.0
```

You can add the line above to /etc/rc.d/rc.local to automatically set the 07:00.0 card during boot.

Assuming your virtual machine is called vm1 stop it and configure it like this

```
vms conf vm1 extra10 "'-device vfio-pci,host=07:00.0'"
```

Also, it is recommended to configure a mouse and a keyboard like this

```
vms conf vm1 extra09 "'-usb -device usb-kbd -device usb-mouse'"
```

This way, the guest grabs the mouse when you click on it's first virtual monitor. You can use 'ctrl-alt-g' to get your mouse back for the host desktop.

Then start vm1 like this

```
vms start vm1
```

Your gfx card should be available in the guest. You can go on and install a regular driver if needed. Using the same logic you can pass any PCI device, like a sound card or a USB controller

## Sources

Originally written by [Nikos Giotis](#)

[howtos](#), [qemu](#), [vms](#), [passthrough](#)

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