

GPU

- [code 43 solved](#)
 - [extract ROM](#)
- <https://scottlinux.com/2016/03/21/enable-hyper-v-enlightenments-in-kvm-for-better-windows-v-m-performance/>

Prereq

- NVIDIA card in second PCIE slot

```
cat /proc/driver/nvidia/gpus/0000\:06\:00.0/information
Model:      GeForce GTX 750 Ti
IRQ:        38
GPU UUID:    GPU-1a843395-eac3-0f8f-11f4-7edbb2a0e088
Video BIOS:  82.07.55.00.1b
Bus Type:    PCIe
DMA Size:    40 bits
DMA Mask:    0xfffffffffff
Bus Location: 0000:06:00.0
Device Minor: 0
```

- Install ovfm

[/etc/modules](#)

```
vfio
vfio_iommu_type1
vfio_pci
vfio_virqfd
```

```
update-initramfs -u
```

Create VM and customize configuration before start:

- In the “Overview” section, set your firmware to “UEFI” and Q35 BIOS
- In the “Processor” section write CPU model to “host-passthrough”

```
<domain type='kvm'>
  <name>winz</name>
  <uuid>aeb4ed7e-6281-4d57-8cba-78a1622783b3</uuid>
  <memory unit='KiB'>6242304</memory>
  <currentMemory unit='KiB'>6242304</currentMemory>
  <vcpu placement='static'>6</vcpu>
  <cputune>
    <vcpupin vcpu='0' cpuset='0' />
    <vcpupin vcpu='1' cpuset='2' />
```

```
<vcpupin vcpu='2' cpuset='4' />
<vcpupin vcpu='3' cpuset='1' />
<vcpupin vcpu='4' cpuset='3' />
<vcpupin vcpu='5' cpuset='5' />
</cputune>
<os>
  <type arch='x86_64' machine='pc-q35-2.6'>hvm</type>
  <loader readonly='yes'
type='pflash'>/usr/share/OVMF/OVMF_CODE.fd</loader>
  <nvram>/var/lib/libvirt/qemu/nvram/winz_VARS.fd</nvram>
  <bootmenu enable='no' />
</os>
<features>
  <acpi />
  <apic />
  <hyperv>
    <relaxed state='on' />
    <vapic state='on' />
    <spinlocks state='on' retries='8191' />
    <vendor_id state='on' value='123456789ab' />
  </hyperv>
  <kvm>
    <hidden state='on' />
  </kvm>
</features>
<cpu mode='host-passthrough'>
  <topology sockets='1' cores='3' threads='2' />
</cpu>
<clock offset='localtime'>
  <timer name='rtc' tickpolicy='catchup' />
  <timer name='pit' tickpolicy='delay' />
  <timer name='hpet' present='no' />
  <timer name='hypervclock' present='yes' />
</clock>
<on_poweroff>destroy</on_poweroff>
<on_reboot>restart</on_reboot>
<on_crash>restart</on_crash>
<pm>
  <suspend-to-mem enabled='no' />
  <suspend-to-disk enabled='no' />
</pm>
<devices>
  <emulator>/usr/bin/kvm-spice</emulator>
  <disk type='block' device='disk'>
    <driver name='qemu' type='raw' cache='none' io='native' />
    <source dev='/dev/zvol/rpool/winz' />
    <target dev='vda' bus='virtio' />
    <boot order='1' />
    <address type='pci' domain='0x0000' bus='0x02' slot='0x04'
function='0x0' />
  </disk>
```

```

<disk type='file' device='cdrom'>
  <driver name='qemu' type='raw'/>
  <source file='/storage/software/windows/Win10_1607_Italian_x64.iso'/>
  <target dev='sda' bus='sata'/>
  <readonly/>
  <address type='drive' controller='0' bus='0' target='0' unit='0'/>
</disk>
<disk type='file' device='cdrom'>
  <driver name='qemu' type='raw'/>
  <source file='/var/lib/libvirt/images/virtio-win.iso'/>
  <target dev='sdb' bus='sata'/>
  <readonly/>
  <address type='drive' controller='0' bus='0' target='0' unit='1'/>
</disk>
<controller type='usb' index='0' model='ich9-ehci1'>
  <address type='pci' domain='0x0000' bus='0x00' slot='0x1d'
function='0x7'/>
</controller>
<controller type='usb' index='0' model='ich9-uhci1'>
  <master startport='0'/>
  <address type='pci' domain='0x0000' bus='0x00' slot='0x1d'
function='0x0' multifunction='on'/>
</controller>
<controller type='usb' index='0' model='ich9-uhci2'>
  <master startport='2'/>
  <address type='pci' domain='0x0000' bus='0x00' slot='0x1d'
function='0x1'/>
</controller>
<controller type='usb' index='0' model='ich9-uhci3'>
  <master startport='4'/>
  <address type='pci' domain='0x0000' bus='0x00' slot='0x1d'
function='0x2'/>
</controller>
<controller type='sata' index='0'>
  <address type='pci' domain='0x0000' bus='0x00' slot='0x1f'
function='0x2'/>
</controller>
<controller type='pci' index='0' model='pcie-root'/>
<controller type='pci' index='1' model='dmi-to-pci-bridge'>
  <model name='i82801b11-bridge'/>
  <address type='pci' domain='0x0000' bus='0x00' slot='0x1e'
function='0x0'/>
</controller>
<controller type='pci' index='2' model='pci-bridge'>
  <model name='pci-bridge'/>
  <target chassisNr='2'/>
  <address type='pci' domain='0x0000' bus='0x01' slot='0x00'
function='0x0'/>
</controller>
<controller type='virtio-serial' index='0'>
  <address type='pci' domain='0x0000' bus='0x02' slot='0x03'

```

```
function='0x0' />
  </controller>
  <interface type='bridge'>
    <mac address='52:54:00:3f:38:9e' />
    <source bridge='br-eth' />
    <model type='rtl8139' />
    <address type='pci' domain='0x0000' bus='0x02' slot='0x01'
function='0x0' />
  </interface>
  <serial type='pty'>
    <target port='0' />
  </serial>
  <console type='pty'>
    <target type='serial' port='0' />
  </console>
  <channel type='spicevmc'>
    <target type='virtio' name='com.redhat.spice.0' />
    <address type='virtio-serial' controller='0' bus='0' port='1' />
  </channel>
  <input type='tablet' bus='usb'>
    <address type='usb' bus='0' port='1' />
  </input>
  <input type='mouse' bus='ps2' />
  <input type='keyboard' bus='ps2' />
  <graphics type='spice' autoport='yes'>
    <listen type='address' />
  </graphics>
  <sound model='ich6'>
    <address type='pci' domain='0x0000' bus='0x02' slot='0x02'
function='0x0' />
  </sound>
  <video>
    <model type='qxl' ram='65536' vram='65536' vgamem='16384' heads='1'
primary='yes' />
    <address type='pci' domain='0x0000' bus='0x00' slot='0x01'
function='0x0' />
  </video>
  <hostdev mode='subsystem' type='usb' managed='yes'>
    <source>
      <vendor id='0x046d' />
      <product id='0xc52b' />
    </source>
    <address type='usb' bus='0' port='4' />
  </hostdev>
  <hostdev mode='subsystem' type='pci' managed='yes'>
    <source>
      <address domain='0x0000' bus='0x06' slot='0x00' function='0x0' />
    </source>
    <address type='pci' domain='0x0000' bus='0x02' slot='0x06'
function='0x0' />
  </hostdev>
```

```
<hostdev mode='subsystem' type='pci' managed='yes'>
  <source>
    <address domain='0x0000' bus='0x06' slot='0x00' function='0x1' />
  </source>
  <address type='pci' domain='0x0000' bus='0x02' slot='0x07'
function='0x0' />
</hostdev>
<redirdev bus='usb' type='spicevmc'>
  <address type='usb' bus='0' port='2' />
</redirdev>
<redirdev bus='usb' type='spicevmc'>
  <address type='usb' bus='0' port='3' />
</redirdev>
<memballoon model='none' />
</devices>
</domain>
```

From:

<https://wiki.csgalileo.org/> - **Galileo Labs**

Permanent link:

<https://wiki.csgalileo.org/tips/gpu?rev=1480148159>

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