

ENSURE YOU HAVE LATEST BIOS

Enable IOMMU

- Enable Intel VT-D in bios
 - Check with this in proxmox node shell
 - if compgen -G "/sys/kernel/iommu_groups/*/devices/*" > /dev/null; then
echo "AMD's IOMMU / Intel's VT-D is enabled in the BIOS/UEFI."
else
echo "AMD's IOMMU / Intel's VT-D is not enabled in the BIOS/UEFI"
fi
- nano /etc/default/grub
 - Change line
 - GRUB_CMDLINE_LINUX_DEFAULT="quiet"
to
 - GRUB_CMDLINE_LINUX_DEFAULT="quiet intel_iommu=on"
Or for amd
 - GRUB_CMDLINE_LINUX_DEFAULT="quiet amd_iommu=on"
- update-initramfs -u -k all
- Reboot Proxmox

Allow unsafe interrupts

- dmesg | grep -e DMAR -e IOMMU -e AMD-Vi
 - (some devices may show ineligible)
- nano /etc/modules
 - Add the following lines
 - Vfio
vfiommu_type1.allow_unsafe_interrupts=1
Vfio_pci
Vfio_virqfd
- After reboot the "device is ineligible" line has disappeared when checking with
 - dmesg | grep -e DMAR -e IOMMU -e AMD-Vi

Add the HPE Scripting utilities

- nano /etc/apt/sources.list.d/pve-enterprise.list
or
- nano /etc/apt/sources.list
 - Add a line with
 - deb https://downloads.linux.hpe.com/SDR/repo/stk/ xenial/current
non-free
- Add the HPE Publickey's by executing
 - curl http://downloads.linux.hpe.com/SDR/hpPublicKey1024.pub | apt-key add -

- curl http://downloads.linux.hpe.com/SDR/hpPublicKey2048.pub | apt-key add -
- curl http://downloads.linux.hpe.com/SDR/hpPublicKey2048_key1.pub | apt-key add -
- curl http://downloads.linux.hpe.com/SDR/hpePublicKey2048_key1.pub | apt-key add -
- apt update
- Install Scripting Utilities
 - apt install hp-scripting-tools
- cd /home
- wget -O conrep_rmrds.xml https://downloads.hpe.com/pub/softlib2/software1/pubsw-linux/p1472592088/v95853/conrep_rmrds.xml

Find Devices Slot

- lspci -vvv &> pcie.list
 - nano pcie.list
 - Look for "Physical Slot: #"
- Exclude Device from proxmox/ilo (Must be done 1 slot at a time)
 - cd /home
 - nano exclude.dat
 - Add the following line in that and save it. (replace # with slot number)
 - <Conrep> <Section name="RMRDS_Slot#" helptext=".">Endpoints_Excluded</Section> </Conrep>
 - (REPEAT FOR OTHER SLOTS IF NEEDED)
- Run the conrep utility from HP to exclude our PCIE Slot from the IOMMU / RMRR of the ILO/IPMI
 - conrep -l -x conrep_rmrds.xml -f exclude.dat
- Verify Results
 - conrep -s -x conrep_rmrds.xml -f verify.dat
 - nano verify.dat
 - Look for a line with your slot number saying excluded
 - <Section name="RMRDS_Slot#" helptext=".">Endpoints_Excluded</Section>
- Reboot Proxmox