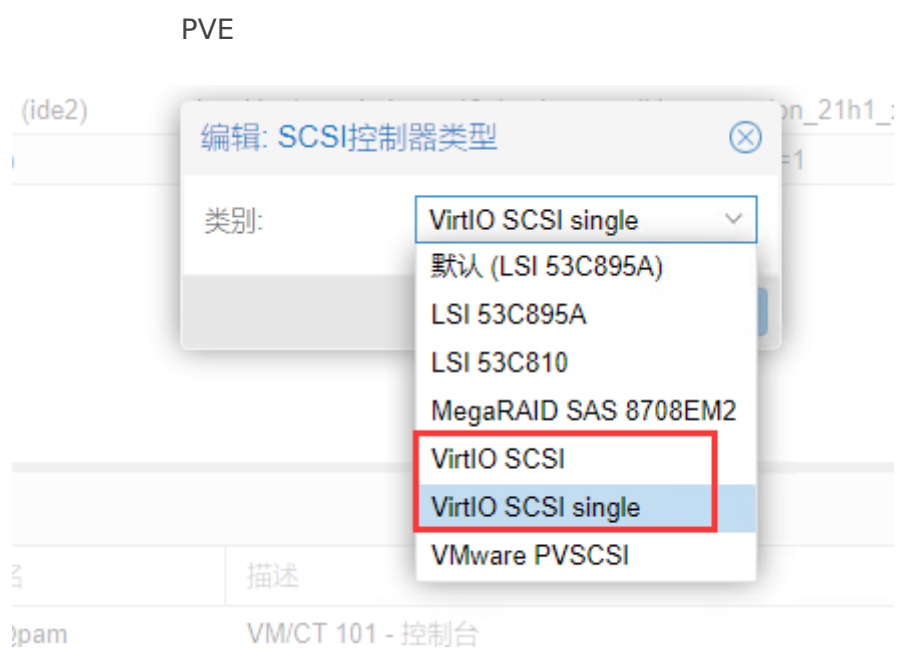


# Proxmox VE



- VirtIO Block:
- VirtIO SCSI:  
VirtIO block
- VirtIO SCSI Single:  
VirtIO SCSI          SCSI          VirtIO

### 3

VirtIO-SCSI    VirtIO-Block

<https://www.ovirt.org/develop/release-management/features/storage/virtio-scsi.html>



	类型	性能	虚拟机中的命名	虚拟机支持的最大数量	热插拔
IDE	全虚拟化	差	/dev/hdX	依赖ide协议限制。(测试值3)	不支持, 不能在线添加IDE硬盘
virtio	半虚拟化	好	/dev/vdX	受虚拟机pci槽数限制, 理论值: 30. (测试值14)	支持, 可以在线添加硬盘
virtio-scsi	半虚拟化	与virtio性能基本一致	/dev/sdX	受限于内核限制: 18278	支持, 可以在线添加硬盘

<https://www.cnblogs.com/kylingx/p/11704994.html>

VirtIO SCSI      2 SCSI      VirtIO BLK

Windows 10 虚拟机

添加 删除 编辑 调整磁盘大小 移动磁盘 还原

- 内存: 4.00 GiB [balloon=0]
- 处理器: 4 (1 sockets, 4 cores) [max]
- BIOS: OVMF (UEFI)
- 显示: 标准VGA (std)
- 机器: pc-q35-5.2
- SCSI控制器: VirtIO SCSI (1) VirtIO-SCSI 控制器
- CD/DVD驱动器 (ide2): none,media=cdrom
- 硬盘 (scsi0): local:101/vm-101-disk-0.qcow2,discard=on,iothread=1,size=40G,ssd=1 (2) VirtIO SCSI 磁盘
- 硬盘 (scsi1): NVME:vm-101-disk-0,discard=on,iothread=1,size=60G,ssd=1
- 硬盘 (virtio0): NVME:vm-101-disk-1,discard=on,iothread=1,size=32G
- 网络设备 (net0): virtio=AC:BD:EF:83:E5:1A,bridge=vmbr0,firewall=1 (3) VirtIO BLK 磁盘
- EFI磁盘: local:101/vm-101-disk-1.qcow2,size=128K

- 处理器
- 磁盘驱动器
  - QEMU QEMU HARDDISK SCSI Disk Device
  - QEMU QEMU HARDDISK SCSI Disk Device
  - Red Hat VirtIO SCSI Disk Device (3) VirtIO-BLK 磁盘
- 存储控制器
  - Microsoft 存储空间控制器
  - Red Hat VirtIO SCSI controller (2) VirtIO-BLK 控制器
  - Red Hat VirtIO SCSI pass-through controller (1) VirtIO-SCSI 控制器
- 打印队列

VirtIO BLK      Red Hat VirtIO Scsi controller  
 VirtIO SCSI      Red Hat VirtIO SCSI pass-through contoller

VirtIO BLK      Red Hat SCSI Disk Device  
 VirtIO SCSI      QEMU QEMU HARDDISK SCSI Disk Device

	VirtIO-SCSI	VirtIO-BLK
	QEMU QEMU HARDDISK SCSI Disk Device	Red Hat SCSI Disk Device
	Red Hat VirtIO SCSI pass-through controller	Red Hat VirtIO SCSI controller
	vioscsi.sys	viostor.sys

## VirtIO-SCSI-Single

OS



VirtIO-SCSI-Single      SCSI

- the **SCSI** controller, designed in 1985, is commonly found on server grade hardware, and can connect by default a LSI 53C895A controller.

A SCSI controller of type *VirtIO SCSI* is the recommended setting if you aim for performance and is available in VMs since Proxmox VE 4.3. Linux distributions have support for this controller since 2012, and FreeBSD provide an extra iso containing the drivers during the installation. If you aim at maximum performance, select *SCSI single* which will allow you to select the **IO Thread** option. When selecting *VirtIO SCSI single* Qemu instead of adding all disks to the same controller.

- The **VirtIO Block** controller, often just called VirtIO or virtio-blk, is an older type of paravirtualized controller. In terms of features, it is a SCSI Controller.

<https://c.cra.moe/t/topic/24>



sparkcyf



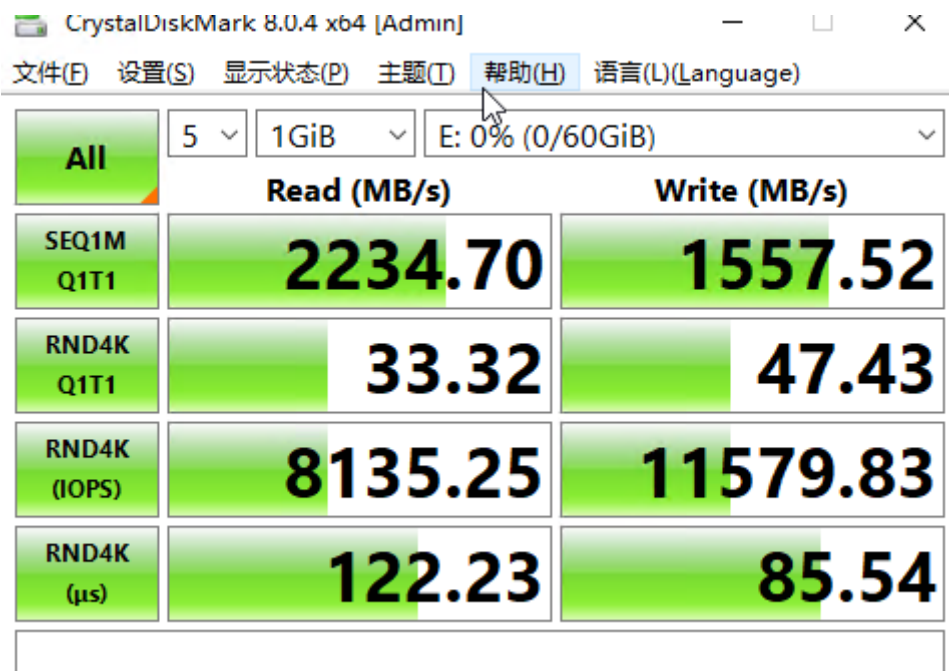
pve.proxmox.com

## Qemu/KVM Virtual Machines - Proxmox VE <sup>1</sup>

将磁盘控制器改为改为 VirtIO SCSI single 后，磁盘于rsync时的I/O速度由修改前的约520iops，性能提升约30%。

Disk I/O bytes

95 MiB



VirtIO-SCSI-Single

VirtIO-SCSI

All	5 ▾	1GiB ▾	E: 0% (0/60GiB) ▾
	Read (MB/s)		Write (MB/s)
SEQ1M Q1T1	2214.33		1595.14
RND4K Q1T1	32.41		44.48
RND4K (IOPS)	7911.62		10860.60
RND4K (μs)	125.71		91.39

single

PVE

VirtIO-SCSI-Single SCSI

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