

Virtio-win RHEL7.3 Viostor Test Plan

1 Introduction

Virtio block device is a para-virtualized device for windows guest. It is different from normal emulated hard drive, because it is simply faster than emulated IDE.

2 Driver Mapping Table

Provide a context diagram of the system, with explanations as applicable. The context of a system refers to the connections and relationships between the system and its environment.

Directory	Support OS
Install\Wnet\x86	Windows 2003 32 bit
Install\Wnet\amd64	Windows XP ,Windows 2003 - 64 bit
Install\Wlh	Windows Vista, Win7, Windows 7, Windows 2008, Windows 2008R2(x86- 32bit, \amd64 - 64 bit)
Install\Win8\x86	Windows 8,8.1,10 -32
Install\Win8\amd64	Windows 8, 8.1 ,2012,2012R2 64 bit

3 Configuration Matrix

Matrix		
Disk format	raw	qcow2
Chipset	pc	q35
bios	seabios	UEFI
Disk type	File Image	Virtual Block Size
data-plane	on	off
virtio1.0	on	off

4 Test Requirements

Function Test Requirements

RHEL7-48534 - Virtio-win Viostor Function Test Requirement

[ Draft]

WHQL Test Requirements

RHEL7-48535 - Virtio-win Viostor WHQL Test Requirement

[ Draft]

5 Function Test Scenarios

* Installation tests

[virtio-win][viostor] install virtio Block driver(in floppy) during guest installation

[virtio-win][viostor] install virtio Block driver(in ISO) during guest installation

[virtio-win][viostor] install virtio block driver(in VFD) on preinstalled guest

[virtio-win][viostor] install virtio block driver(in ISO) on preinstalled guest

[virtio-win][viostor]install guest with large virtual disk

[virtio-win][viostor] Install/Boot guest with physical block size and logical block size

* Migration tests

[virtio-win][viostor] Live migration while executing Crystal disk mark&iozone/iometer

[virtio-win][viostor]Live migration guest with viostor driver enabled

[virtio-win][viostor] Live migration after hot plug virtio disks

[virtio-win][viostor] Live migration after hot un-plug virtio disks

[virtio-win][viostor] Live migration from dataplane=on to dataplane=off

[virtio-win][viostor] Live migration with scsi=off|on test for virtio-blk-device

* Power management tests

[virtio-win][viostor] Reboot guest with block driver enabled

[virtio-win][viostor] shutdown guest with block driver enabled

[virtio-win][viostor] system_reset guest with block driver enabled

[virtio-win][viostor] Reboot guest during iozone running

[virtio-win][viostor] Shutdown guest during iozone running

[virtio-win][viostor] Reboot guest after iozone running

[virtio-win][viostor] Shutdown guest after iozone running

[virtio-win][viostor] Reboot guest when running iometer

[virtio-win][viostor] Shutdown guest when running iometer

[virtio-win][viostor] Reboot guest after iometer running

[virtio-win][viostor] Shutdown guest after iometer running

[virtio-win][viostor] Reboot guest when Crystal benchmark running

[virtio-win][viostor] Reboot guest after Crystal benchmark running

[virtio-win][viostor] shutdown guest when Crystal benchmark running

[virtio-win][viostor] Shutdown guest after Crystal benchmark running

* Hot plug\unplug tests

[virtio-win][viostor] hotplug virtual block device

[virtio-win][viostor] hotunplug virtual block device

[virtio-win][viostor] hotunplug virtual block drive

[virtio-win][viostor] hotplug/hotunplug virtual block device when VM was paused

[virtio-win][viostor] Reboot guest after hotplug virtual block device

[virtio-win][viostor] Shutdown guest after hotplug virtual block device

[virtio-win][viostor] Shutdown guest after hotunplug virtual block device

[virtio-win][viostor] Reboot guest after hotunplug virtual block device

[virtio-win][viostor]hotplug/hot-unplug virtual block device in a loop

* Packaging and signature tests

[virtio-win][viostor] Use signtool.exe to check whether the virtio block driver is digital signed

[virtio-win][viostor] Use "sigverif" Utilityto verifying driver safety

[virtio-win][viostor] check the viostor driver version for *.inf,*.sys,*.cat

[virtio-win][viostor] upgrade/downgrade viostor driver

[virtio-win][viostor] install/uninstall viostor driver

[virtio-win][viostor] Disable/Enable viostor on data disk when it is in use

[virtio-win][viostor] stop/cont guest when crystal is running

[virtio-win][viostor] stop/cont guest when iozone is running

[virtio-win][viostor] stop/cont guest when fio is running

* Driver functional tests

[virtio-win][viostor] Serial number check for virtio-blk devices

[virtio-win][viostor] Boot guest with readonly disk

[virtio-win][viostor] online enlarge and shrink virtio-blk on system disk

[virtio-win][viostor] online enlarge and shrink virtio-blk on data disk

[virtio-win][viostor] Running crystal disk benchmark after online enlarge virtio-blk disks

[virtio-win][viostor] Running crystal disk benchmark online after shrink virtio-blk disks

[virtio-win][viostor] Run crystal disk benchmark on both system_disk and data disk

[virtio-win][viostor] Run fio on both system disk and data disk

[virtio-win][viostor] Run iozone on both system disk and data disk

[virtio-win][viostor] Run iometer on both system disk and data disk

[virtio-win][viostor] Running crystal on each guest when start VM w/ 28 virtual disk

[virtio-win][viostor] Running crystal on virtio block with different type file systems at the same time

[virtio-win][viostor] Running iozone/iometer on virtio block device in 12 hours

6 WHQL Test Scenarios

[WHQL][viostor][HLK]DP WLK - Hot-Replace - Device Test - Verify driver support for D3 power state

[WHQL][viostor][HLK]DP WLK - Hot-Replace - Device Test - Verify driver support for D3 power state

[WHQL][viostor][HLK]DF - Fuzz zero length buffer FSCTL test (Certification)

[WHQL][viostor][HLK]DF - Fuzz zero length buffer FSCTL test (Certification)

[WHQL][viostor][HLK]Storage Query Property (LOGO)

[WHQL][viostor][HLK]Storage Query Property (LOGO)

[WHQL][viostor][HLK]DP WLK - Hot-Add - Device Test - Verify driver support for Hot-Add CPU

[WHQL][viostor][HLK]DP WLK - Hot-Add - Device Test - Verify driver support for Hot-Add CPU

[WHQL][viostor][HLK]DF - Fuzz random IOCTL test (Certification)

[WHQL][viostor][HLK]DF - Fuzz random IOCTL test (Certification)

[WHQL][viostor][HLK]DF - PNP Remove Device Test (Certification)

[WHQL][viostor][HLK]DF - PNP Remove Device Test (Certification)

[WHQL][viostor][HLK]TDI filters and LSPs are not allowed

[WHQL][viostor][HLK]TDI filters and LSPs are not allowed

[WHQL][viostor][HLK]DF - PNP DIF Remove Device Test (Certification)

[WHQL][viostor][HLK]DF - PNP DIF Remove Device Test (Certification)

[WHQL][viostor][HLK]PCI Hardware Compliance Test For a Single Device (PCIHCT)

[WHQL][viostor][HLK]PCI Hardware Compliance Test For a Single Device (PCIHCT)

[WHQL][viostor][HLK]Flush Test

[WHQL][viostor][HLK]Flush Test

[WHQL][viostor][HLK]DF - Fuzz Query and Set File Information Test (Certification)

[WHQL][viostor][HLK]DF - Fuzz Query and Set File Information Test (Certification)

[WHQL][viostor][HLK]DF - Concurrent Hardware And Operating System (CHAOS) Test (Certification)

[WHQL][viostor][HLK]DF - Concurrent Hardware And Operating System (CHAOS) Test (Certification)

[WHQL][viostor][HLK]Wdf - Verify Driver Load Order Group is not WdfLoadGroup

[WHQL][viostor][HLK]Wdf - Verify Driver Load Order Group is not WdfLoadGroup

[WHQL][viostor][HLK]DF - PNP Disable And Enable Device Test (Certification)

[WHQL][viostor][HLK]DF - PNP Disable And Enable Device Test (Certification)

[WHQL][viostor][HLK]DF - Fuzz open and close test (Certification)

[WHQL][viostor][HLK]DF - Fuzz open and close test (Certification)

[WHQL][viostor][HLK]Storage Imports Test (LOGO)

[WHQL][viostor][HLK]Storage Imports Test (LOGO)

[WHQL][viostor][HLK]Driver Memory Test

[WHQL][viostor][HLK]Driver Memory Test

[WHQL][viostor][HLK]Multiple processor group device test

[WHQL][viostor][HLK]Multiple processor group device test

[WHQL][viostor][HLK]Disk Stress (LOGO)

[WHQL][viostor][HLK]Disk Stress (LOGO)

[WHQL][viostor][HLK]DF - Fuzz sub-opens test (Certification)

[WHQL][viostor][HLK]DF - Fuzz sub-opens test (Certification)

[WHQL][viostor][HLK]DF - PNP Stop (Rebalance) Device Test (Certification)

[WHQL][viostor][HLK]DF - PNP Stop (Rebalance) Device Test (Certification)

[WHQL][viostor][HLK]DF - PNP Rebalance Fail Restart Device Test (Certification)

[WHQL][viostor][HLK]DF - PNP Rebalance Fail Restart Device Test (Certification)

[WHQL][viostor][HLK]DF - Fuzz Misc API test (Certification)

[WHQL][viostor][HLK]DF - Fuzz Misc API test (Certification)

[WHQL][viostor][HLK]DF - Fuzz zero length buffer IOCTL test (Certification)

[WHQL][viostor][HLK]DF - Fuzz zero length buffer IOCTL test (Certification)

[WHQL][viostor][HLK]Operate In Server Core Test

[WHQL][viostor][HLK]Operate In Server Core Test

[WHQL][viostor][HLK]DF - Fuzz sub-opens with streams test (Certification)

[WHQL][viostor][HLK]DF - Fuzz sub-opens with streams test (Certification)

[WHQL][viostor][HLK]DF - Sleep and PNP (disable and enable) with IO Before and After (Certification)

[WHQL][viostor][HLK]DF - Sleep and PNP (disable and enable) with IO Before and After (Certification)

[WHQL][viostor][HLK]DF - Fuzz Query and Set Security Test (Certification)

[WHQL][viostor][HLK]DF - Fuzz Query and Set Security Test (Certification)

[WHQL][viostor][HLK]DevFund Broker Test

[WHQL][viostor][HLK]DevFund Broker Test

[WHQL][viostor][HLK]Disk Verification (LOGO)

[WHQL][viostor][HLK]Disk Verification (LOGO)

[WHQL][viostor][HLK]DF - Reinstall with IO Before and After

[WHQL][viostor][HLK]DF - Reinstall with IO Before and After

[WHQL][viostor][HLK]DF - Embedded Signature Verification Test (Certification)

[WHQL][viostor][HLK]DF - Embedded Signature Verification Test (Certification)

[WHQL][viostor][HLK]DevFund INF Test

[WHQL][viostor][HLK]DevFund INF Test

[WHQL][viostor][HLK]DF - Sleep with IO During (Certification)

[WHQL][viostor][HLK]DF - Sleep with IO During (Certification)

[WHQL][viostor][HLK]DF - Fuzz random FSCTL test (Certification)

[WHQL][viostor][HLK]DF - Fuzz random FSCTL test (Certification)

[WHQL][viostor][HLK]Static Tools Logo Test

[WHQL][viostor][HLK]Static Tools Logo Test

[WHQL][viostor][HLK]DF - Fuzz misc API with zero length query test (Certification)

[WHQL][viostor][HLK]DF - Fuzz misc API with zero length query test (Certification)

[WHQL][viostor][HLK]DF - PNP Cancel Remove Device Test (Certification)

[WHQL][viostor][HLK]DF - PNP Cancel Remove Device Test (Certification)

[WHQL][viostor][HLK]DF - PNP Cancel Stop Device Test (Certification)

[WHQL][viostor][HLK]DF - PNP Cancel Stop Device Test (Certification)

[WHQL][viostor][HLK]DF - PNP Surprise Remove Device Test (Certification)

[WHQL][viostor][HLK]DF - PNP Surprise Remove Device Test (Certification)

[WHQL][viostor][HLK]DF - PCI Root Port Surprise Remove Test (PCI devices only) (Certification)

[WHQL][viostor][HLK]DF - PCI Root Port Surprise Remove Test (PCI devices only) (Certification)

[WHQL][viostor][HLK]Device Driver INF Verification Test (Certification)

[WHQL][viostor][HLK]Device Driver INF Verification Test (Certification)

[WHQL][viostor][HLK]DF - PNP Rebalance Request New Resources Device Test (Certification)

[WHQL][viostor][HLK]DF - PNP Rebalance Request New Resources Device Test (Certification)