Virtio-win RHEL7.3 Vioser Test Plan

1 Introduction

Virtio serial is just the transport protocol that will enable such applications to be written. It has two parts: (a) device emulation in qemu that presents a virtio-pci device to the guest and (b) a guest driver that presents a char device interface to userspace applications.

A transport mechanism is needed for communication between the host userspace and guest userspace for achieving things like making clipboard copy/paste work seamlessly across the host and guest, locking the guest screen in case the vnc session to the guest is closed and so on. This can be used in offline cases as well, for example with libguestfs to probe which file systems the guest uses, the apps installed, etc.

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\Wxp\x86	Windows XP, Windows 2003, Windows Vista, Windows7, Windows 2008 - all 32 bit
Install\Wnet\amd64	Windows XP, Windows 2003, Windows Vista, Windows7, Windows 2008 , win 2008 R2
Install\Win8\x86	Windows 8 ,Windows 8.1,windows 10 - all 32 bit
Install\Win8\amd64	Windows8 ,Windows 8.1 ,windows 10 - all 64 bit ,Windows server 2012 ,Windows server 2012R2,Windows2016

3 Configuration Matrix

Matrix		
virtio1.0	on	off

4 Test Requirement

Function Test Requirements

RHEL7-48389 - Vrtio-win Vioser Function Test Requirement [🖉 Draft]

WHQL Test Requirements

RHEL7-48390 - Virtio-win Vioser WHQL Test Requirement [🖉 Draft]

5 Function Test Scenarios

* Installation tests

[virtio-win][vioser] install virtio serial on preinstalled guest

[virtio-win][vioser] install virtio serial driver during guest installation

* Migration tests

[virtio-win][vioser] Migration when vioser is enabled in guest

[virtio-win][vioser] Migration after hot-plug serial

[virtio-win][vioser] Migration after hot-unplug serial

[virtio-win][vioser] Migration between two hosts with data transfer via serial

* Power management tests

[virtio-win][vioser] shutdown guest with serial driver enabled

[virtio-win][vioser] Reboot guest with serial driver enabled

[virtio-win][vioser] shutdown guest during transfering data from host to guest

[virtio-win][vioser] shutdown guest during transfering data from guest to host

[virtio-win][vioser] Reboot guest during transfering data from host to guest

[virtio-win][vioser] Reboot guest during transfering data from guest to host

* Hot plug\unplug tests

[virtio-win][vioser] Hot-plug virtserialport

[virtio-win][vioser] Hot-unplug virtserialport

[virtio-win][vioser] Hot-unplug virtio serial bus

[virtio-win][vioser] Hot-plug virtio serial bus

[virtio-win][vioser] Remove nonexistent virtio serial port and pci device

[virtio-win][vioser] hot plug virtio serial port to existing chardev already been used

[virtio-win][vioser] Shutdown the guest after hotunplug the virtio serial device

[virtio-win][vioser] Shutdown the guest after hotplug the virtio serial device

[virtio-win][vioser] Reboot and system_reset the guest after hotunplug the virtio serial device

[virtio-win][vioser] Reboot and system_reset the guest after hotplug the virtio serial device

[virtio-win][vioser] Keep chardev open for later reuse during hot-plug/unplug virtserialport

[virtio-win][vioser] Continuous hotplug/unplug of virtserialport and virito-serial-pci in a loop during virtio serial does not in use

[virtio-win][vioser] Continuous hotplug/unplug of virtio serial ports in a loop during virtio serial in use

* Packaging and signature tests

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

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

[virtio-win][vioser] install/uninstall virtio serial driver

[virtio-win][vioser] upgrade/downgrade virtio serial driver (pls do this case in the last)

[virtio-win][vioser] Check the driver version for vioser.inf vioser.sys vioser.cat

[virtio-win][vioser] Stop/Cont guest when attached serial

[virtio-win][vioser] Stop/Cont guest during transfering data via virtio serial

* Driver functional tests

[virtio-win][vioser] MSI Check for virtio-serial

[virtio-win][vioser][721355]shut down windows guest gracefully

[virtio-win][vioser] Writing to a virtio serial port while no listening side

[virtio-win][vioser] Virtio serial data transfer in windows guest

[virtio-win][vioser] Disable/Enable virtio serial driver

[virtio-win][vioser] Boot guest with multiple serial [N:1]

[virtio-win][vioser] Boot guest with multiple serial [1:N]

[virtio-win][vioser] Attach virtio serial port to guest using same nr for different virtio serial pci

[virtio-win][vioser] Add existed virtio serial port and serial bus

[virtio-win][vioser] Create MAX number of virtio serial ports

[virtio-win][vioser] Boot guest with multiple serial [N:M]

[virtio-win][vioser] Assgin port 0 to a virtserialport

[virtio-win][vioser]Check if fix memleaks in virtio devices

[virtio-win][vioser]Check the ioeventfd property enabled for virtio deivce

[virtio-win][vioser]Assign more than max number virtio serial port to guest

[virtio-win][vioser]Guest's virtio serial channels are overloaded will block qemu process

6 WHQL Test Scenarios

[WHQL][vioser]DP WLK - Hot-Replace - Device Test - Verify driver support for D3...

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

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

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

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

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

[WHQL][vioser]Wdf - Kmdf Fault Injection Test

[WHQL][vioser]Wdf - Kmdf Fault Injection Test

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

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

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

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

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

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

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

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

[WHQL][vioser]Operate In Server Core Test

[WHQL][vioser]Operate In Server Core Test

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

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

[WHQL][vioser]DF - Concurrent Hardware And Operating System (CHAOS) Test (Certif...

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

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

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

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

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

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

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

[WHQL][vioser]DF - Sleep and PNP (disable and enable) with IO Before and After (...

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

[WHQL][vioser]Driver Memory Test

[WHQL][vioser]Driver Memory Test

[WHQL][vioser]Multiple processor group device test

[WHQL][vioser]Multiple processor group device test

[WHQL][vioser]TDI filters and LSPs are not allowed

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

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

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

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

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

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

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

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

[WHQL][vioser]Wdf - Check Kmdf Coinstaller Version Test

[WHQL][vioser]Wdf - Check Kmdf Coinstaller Version Test

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

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

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

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

[WHQL][vioser]DF - PNP Rebalance Request New Resources Device Test (Certificatio...

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

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

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

[WHQL][vioser]DevFund Broker Test

[WHQL][vioser]DevFund Broker Test

[WHQL][vioser]DP WLK - Hot-Add - Device Test - Verify driver support for Hot-Add...

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

[WHQL][vioser]DF - Reinstall with IO Before and After (Certification)

[WHQL][vioser]DF - Reinstall with IO Before and After (Certification)

[WHQL][vioser]Wdf - Check Kmdf Function Table Test

[WHQL][vioser]Wdf - Check Kmdf Function Table Test

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

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