Virtio-win RHEL7.3 Viorng Test Plan

1 Introduction

VirtIO RNG is a paravirtualized device that is exposed as a hardware RNG device to the guest. On the host side, it can be wired up to one of several sources of entropy, including a real hardware RNG device as well as the host's /dev/random if hardware support doesn't exist.

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\\Win7\\x86	Win7 - all 32 bit
Install\\Win7\\amd64	Win7, Win2008 R2 - all 64 bit
Install\\Wlh\\x86	Win2008 - all 32 bit
Install\\Wlh\\amd64	Win2008 - all 64 bit
Install\Win8\\x86	Win8, Win8.1, Win10 - all 32 bit
Install\Win8\\amd64	Win8, Win8.1,Win2012,Win2012R2,Win10,Win2016 - all 64 bit

3 Configuration Matrix

Matrix		
virtio1.0	on	off

4 Test Requirements

Function Test Requirements

RHEL7-37284 - Virtio-win Viorng Function Test Requirement **[** Draft **]**

WHQL Test Requirements

RHEL7-48336 - Virtio-win Viorng WHQL Test Requirement **[** Draft **]**

5 Function Test Scenarios

*Installation test

[virtio-win][viorng] install virtio rng driver(in iso) on preinstalled guest

[virtio-win][viorng] install virtio rng driver(in iso) during guest installation

*RNG test w/ migration

[virtio-win][viorng] Migrate guest after hotunplug rng device

[virtio-win][viorng] Migrate guest after hotplug rng device

[virtio-win][viorng] Migrate guest rng-egd backend is used

[virtio-win][viorng] Migrate guest while rng device in use

[virtio-win][viorng] Migrate guest with rng device enabled

*RNG test w/ pm

[virtio-win][viorng] reboot guest with virtio rng device enabled

[virtio-win][viorng] shutdown guest with virtio rng device enabled

[virtio-win][viorng] shutdown guest while virtio rng device in use

[virtio-win][viorng] reboot guest while virtio rng device in use

*Rng test w/ hotplug/unplug

[virtio-win][viorng] hotunplug rng device

[virtio-win][viorng] hotplug rng device

[virtio-win][viorng] shutdown guest after hotplug rng device

[virtio-win][viorng] shutdown guest after hotunplug rng device

[virtio-win][viorng] reboot guest after hotplug rng device

[virtio-win][viorng] reboot guest after hotunplug rng device

[virtio-win][viorng] hotplug/hot-unplug rng device in a loop

*Packaging and signature tests

[virtio-win][viorng] Upgrade/downgrade virtio-rng driver(run this case at last)

[virtio-win][viorng] Install/Uninstall virtio-rng driver(run this case at last)

[virtio-win][viorng] Use "sigverif" Utility to verifying driver safety

[virtio-win][viorng] Disable/Enable virtio rng driver

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

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

*Basic Functional test

[virtio-win][viorng] Guest fetch data via RNG device speed limited

[virtio-win][viorng] assign illegal values to viorng parameter

[virtio-win][viorng] Stop/continue guest during rng device running

[virtio-win][viorng] Stop/continue guest with rng device enabled

[virtio-win][viorng] IRQ check for windows guests

[virtio-win][viorng] Boot guest with RNG device and guest can fetch data successfully

[virtio-win][viorng] Boot guest with egd backend

6 WHQL Test Scenarios

[WHQL][viorng][HLK] DF - Sleep and PNP (disable and enable) with IO Before and A...
[WHQL][viorng][HLK] DF - Sleep and PNP (disable and enable) with IO Before and After (Reliability)

[WHQL][viorng][HLK] DF - Fuzz zero length buffer FSCTL test (Reliability)
[WHQL][viorng][HLK] DF - Fuzz zero length buffer FSCTL test (Reliability)

[WHQL][viorng][HLK] DF - PNP DIF Remove Device Test (Reliability)
[WHQL][viorng][HLK] DF - PNP DIF Remove Device Test (Reliability)

[WHQL][viorng][HLK] DF - Reboot Restart with IO During (Reliability)
[WHQL][viorng][HLK] DF - Reboot Restart with IO During (Reliability)

[WHQL][viorng][HLK] DF - Fuzz random IOCTL test (Reliability)
[WHQL][viorng][HLK] DF - Fuzz random IOCTL test (Reliability)

[WHQL][viorng][HLK] DF - PNP Remove Device Test (Reliability)
[WHQL][viorng][HLK] DF - PNP Remove Device Test (Reliability)

[WHQL][viorng][HLK] DF - Sleep with IO During (Reliability)
[WHQL][viorng][HLK] DF - Sleep with IO During (Reliability)

[WHQL][viorng][HLK] DF - Fuzz open and close test (Reliability)
[WHQL][viorng][HLK] DF - Fuzz open and close test (Reliability)

[WHQL][viorng][HLK] DF - Reboot restart with IO before and after (Reliability)
[WHQL][viorng][HLK] DF - Reboot restart with IO before and after (Reliability)

[WHQL][viorng][HLK] DF - Concurrent Hardware And Operating System (CHAOS) Test (...

[WHQL][viorng][HLK] DF - Concurrent Hardware And Operating System (CHAOS) Test (Development and Integration)

[WHQL][viorng][HLK] DF - Sleep and PNP (disable and enable) with IO Before and A...

[WHQL][viorng][HLK] DF - Sleep and PNP (disable and enable) with IO Before and After (Development and Integration)

[WHQL][viorng][HLK] DF - Reinstall with IO Before and After (Reliability)

[WHQL][viorng][HLK] DF - Reinstall with IO Before and After (Reliability)

[WHQL][viorng][HLK] DF - Reinstall with IO Before and After (Development and Int...

[WHQL][viorng][HLK] DF - Reinstall with IO Before and After (Development and Integration)

[WHQL][viorng][HLK] DF - PNP Disable And Enable Device Test (Reliability)

[WHQL][viorng][HLK] DF - PNP Disable And Enable Device Test (Reliability)

[WHQL][viorng][HLK] DF - PNP Cancel Stop Device Test (Development and Integratio...

[WHQL][viorng][HLK] DF - PNP Cancel Stop Device Test (Development and Integration)

[WHQL][viorng][HLK] DF - PNP (disable and enable) with IO Before and After (Brin...

[WHQL][viorng][HLK] DF - PNP (disable and enable) with IO Before and After (Bring Up)

[WHQL][viorng][HLK] DF - Fuzz sub-opens test (Reliability)

[WHQL][viorng][HLK] DF - Fuzz sub-opens test (Reliability)

[WHQL][viorng][HLK] DF - PNP Rebalance Fail Restart Device Test (Development and...

[WHQL][viorng][HLK] DF - PNP Rebalance Fail Restart Device Test (Development and Integration)

[WHQL][viorng][HLK] DF - PNP Stop (Rebalance) Device Test (Reliability)

[WHQL][viorng][HLK] DF - PNP Stop (Rebalance) Device Test (Reliability)

[WHQL][viorng][HLK] DF - PNP Rebalance Fail Restart Device Test (Reliability)

[WHQL][viorng][HLK] DF - PNP Rebalance Fail Restart Device Test (Reliability)

[WHQL][viorng][HLK] DF - PNP Rebalance Request New Resources Device Test (Develo...

[WHQL][viorng][HLK] DF - PNP Rebalance Request New Resources Device Test (Development and Integration)

[WHQL][viorng][HLK] DF - Fuzz Misc API test (Reliability)

[WHQL][viorng][HLK] DF - Fuzz Misc API test (Reliability)

[WHQL][viorng][HLK] DF - PNP Cancel Remove Device Test (Development and Integrat...

[WHQL][viorng][HLK] DF - PNP Cancel Remove Device Test (Development and Integration)

[WHQL][viorng][HLK] DF - Fuzz zero length buffer IOCTL test (Reliability)

[WHQL][viorng][HLK] DF - Fuzz zero length buffer IOCTL test (Reliability)

[WHQL][viorng][HLK] DF - PNP Stop (Rebalance) Device Test (Development and Integ...

[WHQL][viorng][HLK] DF - PNP Stop (Rebalance) Device Test (Development and Integration)

[WHQL][viorng][HLK] DF - Fuzz Query and Set File Information Test (Reliability)

[WHQL][viorng][HLK] DF - Fuzz Query and Set File Information Test (Reliability)

[WHQL][viorng][HLK] DF - SimpleIO stress test with IO process termination (Relia...

[WHQL][viorng][HLK] DF - SimpleIO stress test with IO process termination (Reliability)

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

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

[WHQL][viorng][HLK] DF - Sleep with IO Before and After (Bring Up)

[WHQL][viorng][HLK] DF - Sleep with IO Before and After (Bring Up)

[WHQL][viorng][HLK] DF - PNP DIF Remove Device Test (Development and Integration...

[WHQL][viorng][HLK] DF - PNP DIF Remove Device Test (Development and Integration)

[WHQL][viorng][HLK] DF - Fuzz sub-opens with streams test (Reliability)

[WHQL][viorng][HLK] DF - Fuzz sub-opens with streams test (Reliability)

[WHQL][viorng][HLK] DF - Concurrent Hardware And Operating System (CHAOS) Test (...

[WHQL][viorng][HLK] DF - Concurrent Hardware And Operating System (CHAOS) Test (Reliability)

[WHQL][viorng][HLK] DF - PNP Rebalance Request New Resources Device Test (Reliab...

[WHQL][viorng][HLK] DF - PNP Rebalance Request New Resources Device Test (Reliability)

[WHQL][viorng][HLK] DF - PNP Surprise Remove Device Test (Development and Integr...

[WHQL][viorng][HLK] DF - PNP Surprise Remove Device Test (Development and Integration)

[WHQL][viorng][HLK] DF - Reboot Restart with IO During (Development and Integrat...

[WHQL][viorng][HLK] DF - Reboot Restart with IO During (Development and Integration)

[WHQL][viorng][HLK] DF - PNP Surprise Remove Device Test (Reliability)

[WHQL][viorng][HLK] DF - PNP Surprise Remove Device Test (Reliability)

[WHQL][viorng][HLK] DF - Fuzz random FSCTL test (Reliability)

[WHQL][viorng][HLK] DF - Fuzz random FSCTL test (Reliability)

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

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

[WHQL][viorng][HLK] DF - PNP Cancel Remove Device Test (Reliability)

[WHQL][viorng][HLK] DF - PNP Cancel Remove Device Test (Reliability)

[WHQL][viorng][HLK] DF - Sleep with IO During (Development and Integration)

[WHQL][viorng][HLK] DF - Sleep with IO During (Development and Integration)

[WHQL][viorng][HLK] DF - Fuzz Query and Set Security Test (Reliability)

[WHQL][viorng][HLK] DF - Fuzz Query and Set Security Test (Reliability)

[WHQL][viorng][HLK] DF - PNP Disable And Enable Device Test (Development and Int...

[WHQL][viorng][HLK] DF - PNP Disable And Enable Device Test (Development and Integration)

[WHQL][viorng][HLK] DF - PNP Remove Device Test (Development and Integration)

[WHQL][viorng][HLK] DF - PNP Remove Device Test (Development and Integration)

[WHQL][viorng][HLK] DF - PNP Cancel Stop Device Test (Reliability)

[WHQL][viorng][HLK] DF - PNP Cancel Stop Device Test (Reliability)