

Virtio-win RHEL7.3 Balloon Test Plan

1 Introduction

It's a way to give or take RAM from a guest. (In theory at least), if your guest needs more RAM, you can use the balloon driver to give it more RAM. Or if the host needs to take RAM away from guests, it can do so. All of this is done without needing to pause or reboot the guest.

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	WinXP, Win2003, Win7, Win2008 - all 32 bit
Install\Wnet\amd64	WinXP, Win2003, Win7, Win2008, Win2008 R2 - 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		
balloon service	on	off
virtio1.0	on	off

4 Test Requirements

Function Test Requirements

RHEL7-48473 - Virtio-win Balloon Function Test Requirement [ Draft]

WHQL Test Requirements

RHEL7-48474 - Virtio-win Balloon WHQL Test Requirement [ Draft]

5 Function Test Scenarios

*Installation test

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

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

*Balloon test w/ migration

[virtio-win][balloon] Migrate after hot plug memory balloon device

[virtio-win][balloon] Migrate after hot-unplug memory balloon device

[virtio-win][balloon] Migration guest when balloon driver enabled

[virtio-win][balloon] Migration after evict memory

[virtio-win][balloon] Migration after enlarge memory

[virtio-win][balloon] migrate guest during balloon memory in a loop

* Power management tests

[virtio-win][balloon] shutdown guest with balloon driver enabled

[virtio-win][balloon] Reboot guest with balloon driver enabled

[virtio-win][balloon] shutdown guest during evict memory

[virtio-win][balloon] Reboot guest during evicting memory

[virtio-win][balloon] shutdown guest during enlarging memory

[virtio-win][balloon] Reboot guest during enlarging memory

*Balloon test w/ hotplug/unplug

[virtio-win][balloon] hot-unplug balloon device

[virtio-win][balloon] hotplug balloon device

[virtio-win][balloon] guest reboot after hotunplug balloon

[virtio-win][balloon] guest shutdown after hotunplug balloon

[virtio-win][balloon] shutdown guest after hotplug balloon

[virtio-win][balloon] reboot guest after hotplug balloon

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

[virtio-win][balloon] hotunplug balloon device after blnsrv service installed

*Packaging and signature tests

[virtio-win][balloon] upgrade/downgrade virtio-balloon driver(pls run this case at last)

[virtio-win][balloon] Install/uninstall virtio-balloon driver

[virtio-win][balloon] Disable/Enable virtio balloon driver

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

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

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

*Basic Functional test

[virtio-win][balloon] Disable virtio balloon driver in command line

[virtio-win][balloon] Enlarge guest's memory

[virtio-win][balloon] Evict guest's unused memory

[virtio-win][balloon] Balloon stats basic test

[virtio-win][balloon] sc interrogate balloonservice

[virtio-win][balloon] Disable/enable blnsrv service

[virtio-win][balloon] Install/uninstall blnsrv service

[virtio-win][balloon] Reset memory size to value less than min value

[virtio-win][balloon] Reset memory size to illegal during runtime

[virtio-win][balloon] Stop/cont guest during evict memory

[virtio-win][balloon] Stop/cont guest during enlarging memory

[virtio-win][balloon] balloon memory in a loop during guest play videos.

[virtio-win][balloon] IRQ Check for balloon Driver

[virtio-win][balloon] Reset memory size to value more than the max

[virtio-win][balloon] boot/hot-plug multi balloon device

6 WHQL Test Scenarios

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

[WHQL][balloon][HLK] DF - Reinstall with IO Before and After (Development and In...

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

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

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

[WHQL][balloon][HLK] DF - PNP Cancel Stop Device Test (Development and Integrati...

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

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

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

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

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

[WHQL][balloon][HLK] DF - PNP Rebalance Fail Restart Device Test (Development an...

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

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

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

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

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

[WHQL][balloon][HLK] DF - PNP Rebalance Request New Resources Device Test (Devel...

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

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

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

[WHQL][balloon][HLK] DF - PNP Cancel Remove Device Test (Development and Integra...

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

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

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

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

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

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

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

[WHQL][balloon][HLK] DF - SimpleIO stress test with IO process termination (Reli...

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

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

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

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

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

[WHQL][balloon][HLK] DF - PNP DIF Remove Device Test (Development and Integratio...

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

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

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

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

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

[WHQL][balloon][HLK] DF - PNP Rebalance Request New Resources Device Test (Relia...

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

[WHQL][balloon][HLK] DF - PNP Surprise Remove Device Test (Development and Integ...

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

[WHQL][balloon][HLK] DF - Reboot Restart with IO During (Development and Integra...

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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