

ReleaseOrder ID:

SCGCQ00953604

Headline:

Linux mpt3sas: Phase11 GCA release

Release Version:

12.00.00.00-1

UCM Project:

LINUX_RH_SL_OEL_CTX_MPT_GEN3_PHASE11.0

UCM Stream:

LINUX_RH_SL_OEL_CTX_MPT_GEN3_PHASE11.0_Dev

Release Type:

GCA

State:

Deployed

Release Baseline:

LINUX_RH_SL_OEL_CTX_MPT_GEN3_PHASE11.0_Dev_2015-11-20@
ISAS2

Release Date:

25-NOV-15

Date Generated:

Dec 23, 2015

Release History

- [SCGCQ00934184](#) - Phase 11 Alpha: LINUX_RH_SL_OEL_CTX_MPT_GEN3_PHAS
- [SCGCQ00922644](#) - Phase 11 Alpha: LINUX_RH_SL_OEL_CTX_MPT_GEN3_PHAS
- [SCGCQ00916676](#) - Phase 11 PA: LINUX_RH_SL_OEL_CTX_MPT_GEN3_PHASE11
- [SCGCQ00908334](#) - Phase 11 PA: LINUX_RH_SL_OEL_CTX_MPT_GEN3_PHASE11
- [SCGCQ00901902](#) - Phase 11 PA #1: LINUX_RH_SL_OEL_CTX_MPT_GEN3_PHAS

ReleaseOrder ID:

SCGCQ00934184 [Open In CQWeb](#)

Headline:

Phase 11 Alpha: LINUX_RH_SL_OEL_CTX_MPT_GEN3_PHAS

Release Version:

11.255.05.00-1

UCM Project:

LINUX_RH_SL_OEL_CTX_MPT_GEN3_PHASE11.0

UCM Stream:

LINUX_RH_SL_OEL_CTX_MPT_GEN3_PHASE11.0_Dev

Release Type:

Beta

State:

Superseded

Release Baseline:

LINUX_RH_SL_OEL_CTX_MPT_GEN3_PHASE11.0_Dev_2015-10-15@
ISAS2

Release Date:

22-OCT-15

Date Generated:

Dec 23, 2015

Defects Fixed (3):

ID:

SCGCQ00933587

Headline:

Observing Protection fault due to sas device list corruption

Description Of Change:

These objects can be referenced concurrently throughout the driver, we need a way to make sure threads can't delete them out from under each other. These changes add the refcount, and refactors the code to use it.

Additionally, we cannot iterate over the sas_device_list without holding the lock, or we risk corrupting random memory if items are added or deleted as we iterate. These change refactors _scsih_probe_sas() to use the sas_device_list in a safe way.

Issue Description:

Observing Protection fault due to sas device list corruption

Steps To Reproduce:

Attach one bad drive (which takes log time to respond for the discovery commands) to the HBA. Then load the driver, during the driver load time remove the drive is the drive is taking much time to completely added to the OS. Then protection fault type of kernel panic is observed.

ID:

SCGCQ00933591

Headline:

Refcount fw_events and fix unsafe list usage

Description Of Change:

The fw_event_work struct is concurrently referenced at shutdown, so add a refcount to protect it, and refactor the code to use it.

Additionally, refactor _scsih_fw_event_cleanup_queue() such that it no longer iterates over the list without holding the lock, since _firmware_event_work() concurrently deletes items from the list.

Issue Description:

Protection fault due to fw event list corruption may occur.

Steps To Reproduce:

NA

ID:

SCGCQ00933617 (Port Of Defect SCGCQ00926726)

Headline:

Linux mpt3sas: Notify the AER that driver is ready to resume Normal IO's in it's mmio_enabled callback

Description Of Change:

In AER's mmio_enabled callback notify the AER that driver is ready to resume IO's.

Issue Description: Currently in AER's mmio_enabled callback, driver notify the AER that slot reset is needed without being ready for the slot reset. Actually for 'pci_channel_io_normal' type of PCI channel state their is no need for slot reset. Driver can just notify that it is ready for the IO's.

Steps To Reproduce:

NA

Enhancements Implemented (1):

ID:

SCGCQ00933600 (Port Of EnhancementRequest SCGCQ00929253)

Headline:

Add support for configurable Chain Frame Size.

Description Of Change:

In order to support configurable Chain Frame Size, driver is calculating Chain Message Frame size from the IOCMaxChainSegementSize, whose value will be read from IOC Facts Reply.

ReleaseOrder ID:

SCGCQ00922644 [Open In CQWeb](#)

Headline:

Phase 11 Alpha: LINUX_RH_SL_OEL_CTX_MPT_GEN3_PHAS

Release Version:

11.255.04.00-1

UCM Project:

LINUX_RH_SL_OEL_CTX_MPT_GEN3_PHASE11.0

UCM Stream:

LINUX_RH_SL_OEL_CTX_MPT_GEN3_PHASE11.0_Dev

Release Type:

Alpha

State:

Superseded

Release Baseline:

LINUX_RH_SL_OEL_CTX_MPT_GEN3_PHASE11.0_Dev_2015-09-23@
ISAS2

Release Date:

15-OCT-15

Date Generated:

Dec 23, 2015

Defects Fixed (2):

ID:

SCGCQ00917411

Headline:

Linux Combined src: Observed compilation errors on RHEL5 and SLES10 kernels

Description Of Change:

Fixed compilation errors which were seen while compiling the combined src code on RHEL5 kernels

Issue Description: Observed compilation errors on RHEL5 and SLES10 kernels

Steps To Reproduce:

Just compile the code on any RHEL5 OS kernel

ID: SCGCQ00921831

Headline: SAS3 Phase 11_Alpha:Wrong Driver version is displayed in case of SLES11 binaries

Description Of Change: Modified buildkit to update current driver version in spec file.

Issue Description: Driver version was not getting update in spec file.

Steps To Reproduce: No.

Enhancements Implemented (2):

ID: SCGCQ00922147

Headline: Linux combined src: Ported WarpDrive HBA support from mpt2sas driver src

Description Of Change: Ported WarpDrive HBA support from mpt2sas driver source

ID: SCGCQ00922149

Headline: Linux Combined src: Ported fix for setpci reset kernel oops from mpt2sas src

Description Of Change: setpci reset on warpdrive card along with sysfs access and cli ioctl access resulted in kernel oops, so

- added pci_access_mutex lock to provide synchronization between IOCTL, sysfs, PCI resource handling path,
- added gioc_lock spinlock to protect list operations over multiple controllers.

ReleaseOrder ID: SCGCQ00916676

Open In CQWeb

Headline: Phase 11 PA: LINUX_RH_SL_OEL_CTX_MPT_GEN3_PHASE11

Release Version: 11.255.03.00-1

UCM Project: LINUX_RH_SL_OEL_CTX_MPT_GEN3_PHASE11.0

UCM Stream: LINUX_RH_SL_OEL_CTX_MPT_GEN3_PHASE11.0_Dev

Release Type: Pre-Alpha

State: Superseded

Release Baseline: LINUX_RH_SL_OEL_CTX_MPT_GEN3_PHASE11.0_Dev_2015-09-14@ISAS2

Release Date: 16-SEP-15

Date Generated: Dec 23, 2015

Defects Fixed (1):

ID: SCGCQ00917411

Headline: Linux Combined src: Observed compilation errors on RHEL5 and SLES10 kernels

Description Of Change: Fixed compilation errors which were seen while compiling the combined src code on RHEL5 kernels

Issue Description: Observed compilation errors on RHEL5 and SLES10 kernels

Steps To Reproduce: Just compile the code on any RHEL5 OS kernel

Enhancements Implemented (1):

ID: SCGCQ00899847

Headline: Linux mpt3sas: Combine source code of SAS2 and SAS3 Linux drivers and build separate binaries named mpt3sas & mpt2sas out of combined source

Description Of Change: Combine source code of SAS2 and SAS3 Linux drivers and build separate binaries named mpt3sas.ko & mpt2sas.ko kernel modules out of combined source.

ReleaseOrder ID: SCGCQ00908334

Open In CQWeb

Headline: Phase 11 PA: LINUX_RH_SL_OEL_CTX_MPT_GEN3_PHASE11

Release Version: 11.255.02.00-1

UCM Project: LINUX_RH_SL_OEL_CTX_MPT_GEN3_PHASE11.0

UCM Stream: LINUX_RH_SL_OEL_CTX_MPT_GEN3_PHASE11.0_Dev

Release Type: Pre-Alpha

State: Superseded

Release Baseline: LINUX_RH_SL_OEL_CTX_MPT_GEN3_PHASE11.0_Dev_2015-08-28@ISAS2

Release Date: 04-SEP-15

Date Generated: Dec 23, 2015

Defects Fixed (1):

ID: SCGCQ00903484

Headline: Linux mpt3sas: CPU affinity hint is un-uniformly enabled in case if the number of CPUs are more than MSI-X vectors enabled

Description Of Change: "smp_affinity_enable" module parameter is added to enable/disable affinity hint for MSIX vectors.

- Added affinity_hint variable of type cpumask_var_t in adapter_reply_queue structure. And allocated a memory for this variable by calling alloc_cpumask_var.
- Call the API irq_set_affinity_hint for each MSix vector to affiniatie it with calculated cpus at driver inilization time.
- While freeing the MSIX vector, call this same API to release the cpu affinity mask for each MSix vector by providing the NULL value in cpumask argument.
- then call the free_cpumask_var API to free the memory allocated in step 2.

Issue Description: With current driver, each MSIX vector is set affinity to only single CPU. Actually it has to set affinity to the group of CPU's if CPU count is more than MSIX vector count

Steps To Reproduce: No

Enhancements Implemented (5):

ID: SCGCQ00899809

Headline: Linux mpt3sas: Include changes of MPI 2.5 Rev M and MPI 2.6 Rev E specifications and 2.00.39 headers

Description Of Change: Updated the MPI header to 2.00.39 version

Change set: Added new BiosOption to BIOS Page 1.

ID: SCGCQ00899842

Headline: Linux mpt3sas: Make use of additional HighPriorityCredit number of message frames for sending SCSI IO's

Description Of Change:

- Updated the hba queue depth calculation algorithm as hba queue depth = Request credits + HighPriority credits instead of

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| hba queue depth = Request credits |
| 2. Exit from driver initialization if the Request Credits are less than minimum numbers of credits required for issuing internally framed request messages. |
| 3. Queue the sas_io_unit_cntlr and Event Ack messages in their respective lists if the request frames are not available, Issue these queued messages once the corresponding previously issued message which is completed by reusing the completed message's request frame. |
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| ID: SCGCQ00848176 |
| Headline: UEK R3 U6 OS Support is provided via src.rpm |
| Description Of Change: All stand alone UEK-kernels will be supported via src.rpm , here src.rpm provided in release tarball under kmod_srpm works for this UEk kernel. |
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| ID: SCGCQ00856645 |
| Headline: Added LINUX_MPT3SAS driver support for OVM3.3.3 |
| Description Of Change: Build kit is modified to include support for OVM3.3.3(3.8.13-68.3.3.el6uek.x86_64) and build kit changes have been checked in as part of ER# SCGCQ00900247 |
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| ID: SCGCQ00901708 |
| Headline: Added LINUX_MPT3SAS driver support for OEL6.7_UEK |
| Description Of Change: Build kit is modified to include support for both 32bit(2.6.39-400.250.7) and 64bit (3.8.13-68.3.4) arch of OEL6.7_UEK . Build kit changes have been checked in as part of ER# SCGCQ00900247 |
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ReleaseOrder ID: SCGCQ00901902 [Open In CQWeb](#)
Headline: Phase 11 PA #1: LINUX_RH_SL_OEL_CTX_MPT_GEN3_PHAS
Release Version: 11.255.01.00-1
UCM Project: LINUX_RH_SL_OEL_CTX_MPT_GEN3_PHASE11.0
UCM Stream: LINUX_RH_SL_OEL_CTX_MPT_GEN3_PHASE11.0_Dev
Release Type: Pre-Alpha
State: Superseded
Release Baseline: LINUX_RH_SL_OEL_CTX_MPT_GEN3_PHASE11.0_Dev_2015-08-14@
SAS2
Release Date: 21-AUG-15
Date Generated: Dec 23, 2015

Enhancements Implemented (6):

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| ID: SCGCQ00900247 |
| Headline: Ph 11 LINUX_MPT3SAS : Dropping support for few distros as per MR OS_Support matrix. |
| Description Of Change: Buildkits have been modified to drop support for distros mentioned and changes made in scripts as well as spec files to generate src.rpm(kmp,kmod,generic). These "src.rpm" can be used if you do not find binary level support for specific distro in release contents. |
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| ID: SCGCQ00848176 |
| Headline: UEK R3 U6 OS Support is provided via src.rpm |
| Description Of Change: All stand alone UEK-kernels will be supported via src.rpm , here src.rpm provided in release tarball under kmod_srpm works for this UEk kernel. |
| |
| ID: SCGCQ00856645 |
| Headline: Added LINUX_MPT3SAS driver support for OVM3.3.3 |
| Description Of Change: Build kit is modified to include support for OVM3.3.3(3.8.13-68.3.3.el6uek.x86_64) and build kit changes have been checked in as part of ER# SCGCQ00900247 |
| |
| ID: SCGCQ00901708 |
| Headline: Added LINUX_MPT3SAS driver support for OEL6.7_UEK |
| Description Of Change: Build kit is modified to include support for both 32bit(2.6.39-400.250.7) and 64bit (3.8.13-68.3.4) arch of OEL6.7_UEK . Build kit changes have been checked in as part of ER# SCGCQ00900247 |
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| ID: SCGCQ00898464 (Port Of EnhancementRequest SCGCQ00896193) |
| Headline: Linux mpt3sas: Don't block the Enclosure device |
| Description Of Change: Don't block the Enclosure devices (i.e. SEP devices). Blocking these devices may cause a deadlock while adding the new drive to the OS. |
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| ID: SCGCQ00898466 (Port Of EnhancementRequest SCGCQ00530826) |
| Headline: Linux mpt3sas: Extended the upper boundary restriction for the module parameter up to SCSI_MAX_SG_CHAIN_SEGMENTS(i.e. 2048) |
| Description Of Change: 1. Extended the upper boundary restriction for the module parameter max_sgl_entries. Earlier, the max_sgl_entries was capped at the SCSI_MAX_SG_SEGMENTS kernel definition. With this change, the user would be able to set the max_sgl_entries to any value which is greater than SCSI_MAX_SG_SEGMENTS and less than the minimum of SCSI_MAX_SG_CHAIN_SEGMENTS & hardware limit. |
| 2. Added a print for the message log whenever the user sets the max_sgl_entries to a value greater than SCSI_MAX_SG_SEGMENTS to warn about the kernel definition overriding. |
| This is applicable only for those kernels who's version is greater than or equals to 2.6.25 |
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