MegaRAID Package Release: MR Thunderbolt MR_iMR_TB Release Package

Generate PDF

ReleaseOrderPkg ID: *SCGCQ01184445* Open In CQWeb Download
Headline: *MR 5.14 MR_iMR_TB LSI Point release package - Release_iMR__3.460.114-6464_MR_3.460.115-6465*
Package_Type: *MR Thunderbolt MR_iMR_TB Release Package*
Tier Account: *LSI Generic*
Package_Version: *23.34.0-0019*
Date Generated: *Sep 16, 2016*

Point Release (SCGCQ01184447) - iMR Firmware - 3.460.114-6464

ReleaseOrderID: SCGCQ01184447 Open In CQWeb Download
Headline: Point Release: MR_FW_SAS2.5_5.14 - 3.460.114-6464 iMR Firmware
Release Version: 3.460.114-6464
Product Org: MegaRAID
Product Gen: SAS2.5
Product Family: MR_FW
UCM Project: MR_FW_SAS2.5_5.14
Release Type: Point
UCM Stream: MR_FW_SAS2.5_5.14_Rel
Owner: buildsvc
Release Baseline: MR_FW_SAS2.5_5.14-2016-09-16-3.460.114-6464_REL_1474055582@\MegaRAID
Release Date / Time: 16-SEP-16
Release Type: Point

iMR Firmware Defects Fixed (7):

Defect ID: SCGCQ01157490
Headline: copyback=off reverts to on after restart/ocr
Description Of Change: Copyback will now retain its setting across boots.
Issue Description: Copyback was being set to ON after any reboot or OCR
Steps To Reproduce: Set Copyback = OFF and reboot system

Defect ID: SCGCQ01181295
Headline: Copyback not automatically initiating when manually setting drives to Unconfigured_Good
Description Of Change: FW will begin copyback on drives manually converted to Unconfigured Good
Issue Description: Copyback not automatically starting when manually converting drives to unconfigured good
Steps To Reproduce: 1- Physically pull drive from slot 0.
2- Hotspare drive engages and rebuilds successfully.
3- Take pulled drive to another server and insert drive.
4- Drive shows as Foreign UG
7- Clear foreign configuration.
8- Drive is now UG.
9- Pull drive or select Prepare for Removal.
10- Re-insert drive into original server.
11- Drive is marked as UB.
12- Change drive to UG.
13 Copyback will not start.

Defect ID: SCGCQ01118285
Headline: Data Miscompare found during recovery of CacheCade pinned windows across OCR/Reboot or discard of CacheCade pinned windows while CacheCade degrade flush in progress
Description Of Change: At Boot/OCR time, in presence of pinned cache move all unpinned windows of a degraded CCVD windows to read-only. Such that there won't be any dirty windows generated and only pinned windows are need to be flushed as part of pinned cache recovery.
As part of discard pinned window operation, if CacheCade degrade flush in progress, refrain from reorganizing the windows of a degraded CCVD and defer it till degrade flush completion. On completion of the degrade flush, CCVD windows are any way re-organized.
Issue Description: Heavy IOs run on CacheCade associated SVDs, pinned cache generated on CCVD by pulling out some drives from one of the SVD and IOs continue on remaining SVDs. Also degrade one of the CCVDs by pulling out one of the SSD drives. In this state, OCR/Reboot along with continuing IOs followed by pinned cache recovery results in data miscompare.
The data miscompare is also seen with deletion of pinned cache windows while CCVD degrade flush in progress. The discard pinned cache data miscompare is relevant for both before OCR or after OCR with CCVD degrade flush in progress.
Steps To Reproduce: Recover pinned cache:
Create 2 SVDs of any RAID level
Cerate 1 R1 CCVD using 2 SSD PDs
Associate SVDs with CacheCade
Run heavy IOs on CacheCade associated SVDs
Generate pinned cahe on CCVD by pulling out PDs of one of SVD, such that it becoms offiline
IOs continue on remaining SVDs
Degrade one of the CCVDs by pulling out one of the SSD drives
In this state, OCR along with continuing IOs
Recover pinned cache by putting back the pulled out PDs and SSD PD and foreign import results in data miscompare

Discard Pinned Cache:
Create 2 SVDs of any RAID level
Cerate 1 R1 CCVD using 2 SSD PDs
Associate SVDs with CacheCade
Run heavy IOs on CacheCade associated SVDs
Generate pinned cahe on CCVD by pulling out PDs of one of SVD, such that it becoms offiline
IOs continue on remaining SVDs
Degrade one of the CCVDs by pulling out one of the SSD drives
CacheCade degrade flush kicks in
While degrade flush in progress, discard pinned cache result in data loss

---

Defect ID: SCGCQ00713024
Headline: Foreign config import fails with DDF corruption
Description Of Change: maximum number of foreign configs is extend from 8 to 32 and the new macro is introduced with value 32.
Issue Description: Foreign config import fails with DDF corruption

Steps To Reproduce: none

Defect ID: SCGCQ01155622
Headline: First learn on New CacheVault connected will timeout cause factory line down
Description Of Change: Learncycle failed and learncycle timeout fields are reset when a new learn is initiated.
Issue Description: When a learn cycle fails, FW sets learncycle failed and learncycle timeout fields to TRUE. FW does not reset these fields when a new learn cycle starts and completes.

FW now resets learncycle failed and learncycle timeout fields when a new learn is initiated.
Steps To Reproduce: To emulate the behavior:

Set the learnCycleTimeout and learnCycleFailed from MegaMon -> This simulates the LCTO event in the FW.

Initiate a manual relearn. After relearn completes, check the above two flags.

Defect ID: SCGCQ01142402
Headline: System stall after sense key 04/c4/01 in HSP disk and controller reset repeatedly
Description Of Change: FW will now fail Hot Spare if the disk is continually reporting a hardware error.
Issue Description: By looking at the event log and FW log, it seems that FW did 5 times retry (and one original command) and get the sense of 04/c4/01 for each command. Since all of the commands were failed with the same manner (i.e. 04/c4/01), it prolongs for a long time.

It seems that after retries are not successful, FW does NOT faile the disk because it it HSP.
Steps To Reproduce: Create hotspare status on a bad drive, FW will repeatedly report hardware error sense but never fail the drive.

Defect ID: SCGCQ00949650
Headline: VD erase doesn't complete if VD ID number is changed while the task is on going
Description Of Change: On deleting an LD the LD number gets modified to keep and LD info structure is shifted accordingly. The init bit in LD info was being cleared after the LD info stucture was shifted due to this we were clearing the bit for the wrong LD. Also the LD active init map in PD Info should be modified according to the the shift in LD number and LD info.
Issue Description: Created 2 R0 VDs on 2 SAS HDDs.
Started normal VD erase on both VDs. After VD erase is completed on one VD and before erase is completed on second VD, first VD is deleted.
Then, VD erase on second VD never completes.
Steps To Reproduce: 1. Create a R0 VD on one HDD.
2. Create another R0 VD on one HDD.
3. Start VD erase (normal, delete after completion option enabled if available).
4. If delete after completion option enabled is not available, delete the first VD that erase was completed before erase on second VD completes.

GCA Release (SCGCQ00791254) - FCODE - 4.17.08.00

ReleaseOrderID: SCGCQ00791254 Open In CQWeb Download
Headline: Fcode 4.17.08.00
Release Version: 4.17.08.00
Product Org: MegaRAID
Product Gen: SAS3
Product Family: MR_BIOS
UCM Project: MR_FCODE
Release Type: GCA
UCM Stream: MR_FCODE_Rel
Owner: sramach
Release Baseline: MR_FCODE_Rel_2014-11-07_v4.17.08.00@\MegaRAID
Release Date / Time: 07-NOV-14
Release Type: GCA

FCODE Enhancements Implemented (1):

EnhancementRequest ID: SCGCQ00791238
Headline: Update Attribution Language - Copyright, Trademark, Confidentiality to Avago
Description Of Change: All the source code, customer visible banners/logo's and copyright information are changed as required

---

Point Release (SCGCQ01126875) - Hii - 03.17.14.04

ReleaseOrderID: SCGCQ01126875 Open In CQWeb Download
Headline: MR 6.9/5.14 Patch HEFU HII (2208 and 3108) - v03.17.14.04 (SIGNED)
Release Version: 03.17.14.04
Product Org: MegaRAID
Product Gen: SAS3
Product Family: MR_BIOS
UCM Project: MR_SAS_HEFU_HII_6.9
Release Type: Point
UCM Stream: MR_SAS_HEFU_HII_6.9_Intruder_Patch
Owner: sramach
Release Baseline: MR_SAS_HEFU_HII_6.9_Intruder_Patch_2016-06-28_v03.17.14.04@\MegaRAID
Release Date / Time: 28-JUN-16
Release Type: Point

GCA Release (SCGCQ00908099) - UEFI_Driver - 0x06110200

ReleaseOrderID: SCGCQ00908099 Open In CQWeb Download
Headline: MR 6.9/5.14 UEFI Driver (2208, 3108 and 3324) 0x06110200 (SIGNED)
Release Version: 0x06110200
Product Org: MegaRAID
Product Gen: SAS3
Product Family: MR_BIOS
UCM Project: MR_UEFI_Drv_6.9
Release Type: GCA
UCM Stream: MR_UEFI_Drv_6.9_Intruder_Rel
Owner: sramach
Release Baseline: MR_UEFI_Drv_6.9_Intruder_Rel_2015-08-28_v0x06110200signed@\MegaRAID
Release Date / Time: 28-AUG-15
Release Type: GCA

GCA Release (SCGCQ00890432) - BIOS - 5.50.03.0

ReleaseOrderID: SCGCQ00890432 Open In CQWeb Download
Headline: MR 5.14 BIOS 5.50.03.0 for TB
Release Version: 5.50.03.0
Product Org: MegaRAID
Product Gen: SAS2.5
Product Family: MR_BIOS
UCM Project: MR_SAS_BIOS_5.14
Release Type: GCA

UCM Stream: MR_SAS_BIOS_6.9_Intruder_Rel
Owner: buildsvc
Release Baseline: MR_SAS_BIOS_5.14-2015-07-21-5.50.03.0_REL_1437539076@ \MegaRAID
Release Date / Time: 22-JUL-15
Release Type: GCA

BIOS Defects Fixed (1):

Defect ID: SCGCQ00882729
Headline: Legacy OpROM: Controller POST shows JBOD found on host adapter, when number of INT13 device is > deviceExposure
Description Of Change: When the number of INT13 devices exceeds MAX_INT13DISK, remove-the NON-DISK devices from the bootable PD count that is used to display the number in the POST.
Issue Description: When the number of INT13 devices (the devices are part of the enclosure) exceeds the MAX_INT13DISK, the BIOS POST shows JBODs present, eventhough there are no JBODs present in the configuration.
Steps To Reproduce:
1. Have 9 VDs created in the enclosure, and connect the enclosure to the controller.
2. Set the biosData.deviceExposure to 8.
3. Reboot the system.
4. In the BIOS POST, the below message is seen even when there are no JBODs present in the configuration.
1 JBOD(s) found on the host adapter

Point Release (SCGCQ01184446) - Firmware - 3.460.115-6465 ^

ReleaseOrderID: SCGCQ01184446 Open In CQWeb Download
Headline: Point Release: MR_FW_SAS2.5_5.14 - 3.460.115-6465 Firmware
Release Version: 3.460.115-6465
Product Org: MegaRAID
Product Gen: SAS2.5
Product Family: MR_FW
UCM Project: MR_FW_SAS2.5_5.14
Release Type: Point
UCM Stream: MR_FW_SAS2.5_5.14_Rel
Owner: buildsvc
Release Baseline: MR_FW_SAS2.5_5.14-2016-09-16-3.460.115-6465_REL_1474055517@ \MegaRAID
Release Date / Time: 16-SEP-16
Release Type: Point

Firmware Defects Fixed (7):

Defect ID: SCGCQ01157490
Headline: copyback=off reverts to on after restart/ocr
Description Of Change: Copyback will now retain its setting across boots.
Issue Description: Copyback was being set to ON after any reboot or OCR
Steps To Reproduce: Set Copyback = OFF and reboot system

Defect ID: SCGCQ01181295
Headline: Copyback not automatically initiating when manually setting drives to Unconfigured_Good
Description Of Change: FW will begin copyback on drives manually converted to Unconfigured Good
Issue Description: Copyback not automatically starting when manually converting drives to unconfigured good
Steps To Reproduce:
1- Physically pull drive from slot 0.
2- Hotspare drive engages and rebuilds successfully.
3- Take pulled drive to another server and insert drive.
4- Drive shows as Foreign UG
7- Clear foreign configuration.
8- Drive is now UG.
9- Pull drive or select Prepare for Removal.
10- Re-insert drive into original server.
11- Drive is marked as UB.
12- Change drive to UG.
13 Copyback will not start.

Defect ID: SCGCQ01118285
Headline: Data Miscompare found during recovery of CacheCade pinned windows across OCR/Reboot or discard of CacheCade pinned windows while CacheCade degrade flush in progress
Description Of Change: At Boot/OCR time, in presence of pinned cache move all unpinned windows of a degraded CCVD windows to read-only. Such that there won't be any dirty windows generated and only pinned windows are need to be flushed as part of pinned cache recovery.
As part of discard pinned window operation, if CacheCade degrade flush in progress, refrain from reorganizing the windows of a degraded CCVD and defer it till degrade flush completion. On completion of the degrade flush, CCVD windows are any way re-organized.
Issue Description: Heavy IOs run on CacheCade associated SVDs, pinned cache generated on CCVD by pulling out some drives from one of the SVD and IOs continue on remaining SVDs. Also degrade one of the CCVDs by pulling out one of the SSD drives. In this state, OCR/Reboot along with continuing IOs followed by pinned cache recovery results in data miscompare.
The data miscompare is also seen with deletion of pinned cache windows while CCVD degrade flush in progress. The discard pinned cache data miscompare is relevant for both before OCR or after OCR with CCVD degrade flush in progress.
Steps To Reproduce:
Recover pinned cache:
Create 2 SVDs of any RAID level
Cerate 1 R1 CCVD using 2 SSD PDs
Associate SVDs with CacheCade
Run heavy IOs on CacheCade associated SVDs
Generate pinned cahe on CCVD by pulling out PDs of one of SVD, such that it becoms offiline
IOs continue on remaining SVDs
Degrade one of the CCVDs by pulling out one of the SSD drives
In this state, OCR along with continuing IOs
Recover pinned cache by putting back the pulled out PDs and SSD PD and foreign import results in data miscompare

Discard Pinned Cache:
Create 2 SVDs of any RAID level
Cerate 1 R1 CCVD using 2 SSD PDs
Associate SVDs with CacheCade
Run heavy IOs on CacheCade associated SVDs
Generate pinned cahe on CCVD by pulling out PDs of one of SVD, such that it becoms offiline
IOs continue on remaining SVDs
Degrade one of the CCVDs by pulling out one of the SSD drives
CacheCade degrade flush kicks in
While degrade flush in progress, discard pinned cache result in data loss

---

Defect ID: SCGCQ00713024
Headline: Foreign config import fails with DDF corruption
Description Of Change: maximum number of foreign configs is extend from 8 to 32 and the new macro is introduced with value 32.
Issue Description: Foreign config import fails with DDF corruption
Steps To Reproduce: none

Defect ID: SCGCQ01155622
Headline: First learn on New CacheVault connected will timeout cause factory line down
Description Of Change: Learncycle failed and learncycle timeout fields are reset when a new learn is initiated.
Issue Description: When a learn cycle fails, FW sets learncycle failed and learncycle timeout fields to TRUE. FW does not reset these fields when a new learn cycle starts and completes.

FW now resets learncycle failed and learncycle timeout fields when a new learn is initiated.
Steps To Reproduce: To emulate the behavior:

Set the learnCycleTimeout and learnCycleFailed from MegaMon -> This simulates the LCTO event in the FW.

Initiate a manual relearn. After relearn completes, check the above two flags.

Defect ID: SCGCQ01142402
Headline: System stall after sense key 04/c4/01 in HSP disk and controller reset repeatedly
Description Of Change: FW will now fail Hot Spare if the disk is continually reporting a hardware error.
Issue Description: By looking at the event log and FW log, it seems that FW did 5 times retry (and one original command) and get the sense of 04/c4/01 for each command. Since all of the commands were failed with the same manner (i.e. 04/c4/01), it prolongs for a long time.

It seems that after retries are not successful, FW does NOT faile the disk because it it HSP.
Steps To Reproduce: Create hotspare status on a bad drive, FW will repeatedly report hardware error sense but never fail the drive.

Defect ID: SCGCQ00949650
Headline: VD erase doesn't complete if VD ID number is changed while the task is on going
Description Of Change: On deleting an LD the LD number gets modified to keep and LD info structure is shifted accordingly. The init bit in LD info was being cleared after the LD info stucture was shifted due to this we were clearing the bit for the wrong LD. Also the LD active init map in PD Info should be modified according to the the shift in LD number and LD info.
Issue Description: Created 2 R0 VDs on 2 SAS HDDs.
Started normal VD erase on both VDs. After VD erase is completed on one VD and before erase is completed on second VD, first VD is deleted.
Then, VD erase on second VD never completes.
Steps To Reproduce: 1. Create a R0 VD on one HDD.
2. Create another R0 VD on one HDD.
3. Start VD erase (normal, delete after completion option enabled if available).
4. If delete after completion option enabled is not available, delete the first VD that erase was completed before erase on second VD completes.

Point Release (SCGCQ01129434) - NVDATA - MR2.1507.03-0162;iMR2.1507.04-0157 ^

ReleaseOrderID: SCGCQ01129434 Open In CQWeb Download
Headline: MR 5.14 NVDATA Release: MR Version 2.1507.03-0162; iMR Version 2.1507.04-0157
Release Version: MR2.1507.03-0162;iMR2.1507.04-0157
Product Org: MegaRAID
Product Gen: SAS2.5
Product Family: MR_FW
UCM Project: MR_SAS_NVDATA2.5_5.14
Release Type: Point
UCM Stream: MR_SAS_NVDATA2.5_5.14_Rel
Owner: schapara
Release Baseline: baseline:MR_SAS_NVDATA2.5_5.14_Rel_2016-06-30@\MegaRAID
Release Date / Time: 30-JUN-16
Release Type: Point

NVDATA Defects Fixed (1):

Defect ID: SCGCQ01079578
Headline: Requires to modify NVDATA for ROMB 1000/005b/1170/005B
Description Of Change: Modified NVdata to correct LED behavior
Issue Description: LED behavior incorrect during rebuild
Steps To Reproduce: Initiate rebuild and watch LEDs

NVDATA Enhancements Implemented (1):

EnhancementRequest ID: SCGCQ01128412
Headline: Need PnPId info ported to 5.14 iMR stream to support SAS2208-based controller
Description Of Change: Added support for 5.14 iMR board

GCA Release (SCGCQ00854205) - WebBIOS - 6.1-76-e_76-Rel ^

ReleaseOrderID: SCGCQ00854205 Open In CQWeb Download
Headline: GCA Release: MR_SAS2.5_WebBIOS_5.14 - 6.1-76-e_76-Rel
Release Version: 6.1-76-e_76-Rel
Product Org: MegaRAID
Product Gen: SAS2.5
Product Family: MR_Preboot_Utils
UCM Project: MR_SAS2.5_WebBIOS_5.14
Release Type: GCA
UCM Stream: MR_SAS2.5_WebBIOS_5.14_Rel
Owner: shrpatil
Release Baseline: MR_SAS2.5_WebBIOS_5.14_Rel_2015-04-29_v6.1-69-e_69-Rel@\MegaRAID
Release Date / Time: 29-APR-15
Release Type: GCA

WebBIOS Enhancements Implemented (1):

EnhancementRequest ID: SCGCQ00846708
Headline: OEM requesting to do a WRITE VERIFY prior to flushing cache. This needs to be managed via CLI
Description Of Change: Added new field called "Write Verify" with enable/disable option

---

Point Release (SCGCQ00475200) - BootBlockCommon - 07.26.26.219 ^

ReleaseOrderID: SCGCQ00475200 Open In CQWeb Download
Headline: Release 5.2: MegaRAID SYNCRO ONLY Common BootBlock v07.26.26.219
Release Version: 07.26.26.219
Product Org: MegaRAID
Product Gen: SAS2.5
Product Family: MR_FW
UCM Project: MR_BOOT_BLOCK_COMMON_Rel
Release Type: Point
UCM Stream: MR_BOOT_BLOCK_COMMON_Rel_Int
Owner: srichant
Release Baseline: MR_BOOT_BLOCK_COMMON_Rel_4_10_2012@\MegaRAID
Release Date / Time: 06-AUG-13
Release Type: Point

BootBlockCommon Enhancements Implemented (1):

EnhancementRequest ID: SCGCQ00472311
Headline: (CBB) Provide mechanism to disable PCIe backchannel training via SBR
Description Of Change: On a SAS2208 device if SBR is modified to set bit 4 of byte 0x5F then PCIe backchannel training will be disabled.

That bit is not set in a default SBR so normal operation is used by default.

Note: Byte 0x5F of the SBR is now reserved for CBB usage.

GCA Release (SCGCQ00356694) - PCLI - 05.07.00

ReleaseOrderID: SCGCQ00356694 Open In CQWeb Download
Headline: MR_SAS_5.5_MegaPCLI_05.07.00
Release Version: 05.07.00
Product Org: MegaRAID
Product Gen: SASx
Product Family: MR_OS_Utils
UCM Project: MR_SAS_CLI_5.5
Release Type: GCA
UCM Stream: MR_SAS_CLI_5.5_Rel
Owner: mjadamal
Release Baseline: MR_SAS_CLI_5.5_Rel_2012-11-14.1020@/MegaRAID
Release Date / Time: 16-NOV-12
Release Type: GCA

PCLI Defects Fixed (2):

Defect ID: SCGCQ00356037
Headline:
Description Of Change:
Issue Description: CLI Crashes When Running ADP FW Flash Command
Steps To Reproduce: ./MegaCli adpfwflash -f fw.rom -resetnow a0
./MegaCli adpfwflash -f fw.rom -a0

Defect ID: SCGCQ00356190
Headline: No controller properties for Online FW Update in MegaCLi
Description Of Change:
Issue Description: No controller properties for Online FW Update in MegaCLi
Steps To Reproduce: MegaCli adpallinfo a0

GCA Release (SCGCQ00356330) - BootBlock - 2.05.00.00-0010

ReleaseOrderID: SCGCQ00356330 Open In CQWeb Download
Headline: MR 5.3 Bootblock rel-2.05.00.00-0010
Release Version: 2.05.00.00-0010
Product Org: MegaRAID
Product Gen: SAS2.5
Product Family: MR_FW
UCM Project: MR_BOOT_BLOCK_11M08_5.3
Release Type: GCA
UCM Stream: MR_BOOT_BLOCK_11M08_5.3_Rel
Owner: vanis
Release Baseline: MR_BOOT_BLOCK_11M08_5.3_Int_2012-11-12@\MegaRAID
Release Date / Time: 13-NOV-12
Release Type: GCA

BootBlock Defects Fixed (1):

Defect ID: SCGCQ00343311
Headline: SAS2208 FW MR 5.4 posting a "91" error code FW 23.9.0-015
Description Of Change: Fix : Reduced the bootblock Init time, which effectively reduced the config retry time to about 700 or so mS
Issue Description: Issue : Issue is basically ,the fix for PCI gen3 included a polling mechanism for link down reset detection which was increasing the time bootblock was taking. The polling was taking little too long. This was causing the config retry to be released after slightly more than 1 second. PCIe spec says this has to be 1000 mS maximum
Steps To Reproduce: Boot with latest MR5.4 package and in the FW log look for the print ,"time till config valid"

1000 mS is the max a controller can take before config valid as per PCI spec
If it is taking close to or more than 1000mS then it is an issue.

GCA Release (SCGCQ00304181) - Ctrl-R - 4.02-0001

ReleaseOrderID: SCGCQ00304181 Open In CQWeb Download
Headline: MR_SAS_Ctrl-R_MR5.4_2208_release_version_4.02-0001
Release Version: 4.02-0001
Product Org: MegaRAID
Product Gen: SAS2.5
Product Family: MR_Preboot_Utils
UCM Project: MR_SAS2.5_CtrlR_Perc8.1
Release Type: GCA
UCM Stream: MR_SAS2.5_CtrlR_Perc8.1_Rel
Owner: pravkuma
Release Baseline: MR_SAS2.5_CtrlR_Perc8.1_Rel_2012-07-10_Ver_4.02-0001@/MegaRAID
Release Date / Time: 10-JUL-12
Release Type: GCA

GCA Release (SCGCQ00258748) - ROMENV - 1.08

ReleaseOrderID: SCGCQ00258748 Open In CQWeb Download
Headline: 11M06 TB ROMENV Release
Release Version: 1.08
Product Org: MegaRAID
Product Gen: SAS2
Product Family: MR_Apps
UCM Project: MR_ROMENV

Release Type:	**GCA**
UCM Stream:	**MR_ROMENV_Int**
Owner:	**chammond**
Release Baseline:	**1.08**
Release Date / Time:	**12-MAR-12**
Release Type:	**GCA**