

MPT BIOS

Version 6.24.00.00

07/01/2008

Compatibility:

- 1064 A3 and later
- 1068 A0, B0 and later
- 1064e B0 and later
- 1068e B0 and later
- 1078 C0 and later

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

As of build 6.18.00, build utilities used in the creation of the option ROM will be included in the bundle file (.lbf file).

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

Core BIOS = 71 KB (45 KB Init Time, 23 KB Run Time)

Core CU = 119 KB

Total = 190 KB

Major Changes From Version 6.23.02.00:

General Changes

Functionality

- Moved to GCA versioning for Phase 14

Defect fixes

- None

MPT BIOS

Version 6.23.02.00

05/23/2008

Compatibility:

- 1064 A3 and later
- 1068 A0, B0 and later
- 1064e B0 and later
- 1068e B0 and later
- 1078 C0 and later

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As of build 6.18.00, build utilities used in the creation of the option ROM will be included in the bundle file (.lbf file).

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

Core BIOS = 71 KB (45 KB Init Time, 23 KB Run Time)

Core CU = 119 KB

Total = 190 KB

Major Changes From Version 6.23.01.00:

General Changes

Functionality

- None

Defect fixes

- Fixed issue with memory leak in verification of hot spare
- Added CU debug code for internal verification
- Fixed LED Identify code to properly set SEP message
- Updated CU strings entry for STR_IR_ACTIVATE_CONFIRM to allow SDK-customizable settings to be retained.

Release Notes

MPT BIOS

Version 6.23.01.00

05/06/2008

Compatibility:

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- 1068 A0, B0 and later
- 1064e B0 and later
- 1068e B0 and later
- 1078 C0 and later

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MPTSAS.ROM

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MPTSASDL.ROM

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As of build 6.18.00, build utilities used in the creation of the option ROM will be included in the bundle file (.lbf file).

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

Core BIOS = 71 KB (45 KB Init Time, 23 KB Run Time)

Core CU = 119 KB

Total = 190 KB

Major Changes From Version 6.22.00.00:

General Changes

Functionality

- Added ability to reverse core BIOS adapter scan order with NVDATA setting.
- Added ability to mix SSD-SAS and SSD-SATA in a volume with NVDATA setting.

Defect fixes

- Fixed issue with roaming IME volume when first physical disk is missing causing no hot spares to be allowed to be created.
- Fixed issue with SSD hot spare drives being reported as Orphaned

Release Notes

MPT BIOS

Version 6.22.00.00

04/10/2008

Compatibility:

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- 1064e B0 and later
- 1068e B0 and later
- 1078 C0 and later

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As of build 6.18.00, build utilities used in the creation of the option ROM will be included in the bundle file (.lbf file).

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

Core BIOS = 71 KB (45 KB Init Time, 23 KB Run Time)

Core CU = 119 KB

Total = 190 KB

Major Changes From Version 6.21.05.00:

General Changes

Functionality

- Moved to GCA versioning for Phase 13

Defect fixes

- None

Release Notes

MPT BIOS

Version 6.21.05.00

03/25/2008

Compatibility:

- 1064 A3 and later
- 1068 A0, B0 and later
- 1064e B0 and later
- 1068e B0 and later
- 1078 C0 and later

Builds released:

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MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

As of build 6.18.00, build utilities used in the creation of the option ROM will be included in the bundle file (.lbf file).

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

Core BIOS = 71 KB (45 KB Init Time, 23 KB Run Time)

Core CU = 119 KB

Total = 190 KB

Major Changes From Version 6.21.04.00:

General Changes

Functionality

- Added support for displaying adapter information during BIOS Post message when PortSCSIId of the adapter is beyond 127 (max target ID core BIOS scans during initialization).

Defect fixes

- Fixed the SSD determination logic when parsing return data from block characteristics page on VPD Inquiry. This requires FW version 25.10 or later to correctly identify SSD devices within the CU using this new method.
- Fixed SSD string identifiers for SATA-SSD and SAS-SSD so they can be modified via the BIOS SDK. These strings were originally created with read-only attributes.

Release Notes

MPT BIOS

Version 6.21.04.00

03/17/2008

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- 1078 C0 and later

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Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

As of build 6.18.00, build utilities used in the creation of the option ROM will be included in the bundle file (.lbf file).

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

Core BIOS = 71 KB (45 KB Init Time, 23 KB Run Time)

Core CU = 119 KB

Total = 190 KB

Major Changes From Version 6.21.03.00:

General Changes

Functionality

- Added ability for core BIOS and BIOS CU to scan target Ids that are beyond the MaxTargets value reported by PortFacts. This allows the BIOS to scan target Ids that were assigned by the FW in non-sequential fashion.

Defect fixes

- Fixed the location the BIOS CU uses to get the metadata size for previously configured volumes from Manufacturing Page 4 to RAID Volume Page 0.

Release Notes

MPT BIOS

Version 6.21.03.00

02/28/2008

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- 1068e B0 and later
- 1078 C0 and later

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As of build 6.18.00, build utilities used in the creation of the option ROM will be included in the bundle file (.lbf file).

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

Core BIOS = 71 KB (45 KB Init Time, 23 KB Run Time)

Core CU = 119 KB

Total = 190 KB

Major Changes From Version 6.21.02.00:

General Changes

Functionality

- None

Defect fixes

- Fixed the ability for the BIOS configuration utility to create hot spares with SSD (Solid State Drives) devices.

Release Notes

MPT BIOS

Version 6.21.02.00

02/26/2008

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- 1064 A3 and later
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- 1068e B0 and later
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As of build 6.18.00, build utilities used in the creation of the option ROM will be included in the bundle file (.lbf file).

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

Core BIOS = 71 KB (45 KB Init Time, 23 KB Run Time)

Core CU = 119 KB

Total = 190 KB

Major Changes From Version 6.21.01.00:

General Changes

Functionality

- Added 128MB coercion based on the ExtFlags field in Manufacturing Page 4.

Defect fixes

- None

Release Notes

MPT BIOS

Version 6.21.01.00

02/08/2008

Compatibility:

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- 1068e B0 and later
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Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

As of build 6.18.00, build utilities used in the creation of the option ROM will be included in the bundle file (.lbf file).

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

Core BIOS = 71 KB (45 KB Init Time, 23 KB Run Time)

Core CU = 119 KB

Total = 190 KB

Major Changes From Version 6.21.00.01:

General Changes

Functionality

- None

Defect fixes

- Resolved issue with misidentification of SSD disks.

Release Notes

MPT BIOS

Version 6.21.00.01

01/18/2008

Compatibility:

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- 1064e B0 and later
- 1068e B0 and later
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Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

As of build 6.18.00, build utilities used in the creation of the option ROM will be included in the bundle file (.lbf file).

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

Core BIOS = 71 KB (45 KB Init Time, 23 KB Run Time)

Core CU = 119 KB

Total = 190 KB

Major Changes From Version 6.20.00.00:

General Changes

Functionality

- Adapters listed by information supplied in Manufacturing Page 0 instead of static chip-based references
- Added ability to isolate Solid State Disk drives in IR volumes (prevent mixing SSD and non-SSD drives within a volume)
- Removed obsolete dependencies from BIOS build process.

Defect fixes

- Check settings in Manufacturing Page 7 prior to enabling multi-path device hiding in IR Properties screens
- Isolate configuration page header read failures from configuration page read failures
- Update status for second missing hot spare in IME volumes
- Update help message on error when activating a volume with too many drives
- Updated verify functionality to allow user to escape once 'Reassign All' has been selected and drive is no longer responding.

Release Notes

MPT BIOS

Version 6.20.00

12/04/2007

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- 1064e B0 and later
- 1068e B0 and later
- 1078 C0 and later

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MPTSASDL.ROM

Special Notes for this build:

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As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

As of build 6.18.00, build utilities used in the creation of the option ROM will be included in the bundle file (.lbf file).

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

Core BIOS = 71 KB (45 KB Init Time, 23 KB Run Time)

Core CU = 119 KB

Total = 190 KB

Major Changes From Version 6.19.02.00:

General Changes

Functionality

- Moved to GCA versioning for Phase 11.

Defect fixes

- None

Release Notes

MPT BIOS

Version 6.19.02

10/01/2007

Compatibility:

- 1064 A3 and later
- 1068 A0, B0 and later
- 1064e B0 and later
- 1068e B0 and later
- 1078 C0 and later

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

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MPTSASDL.ROM

Special Notes for this build:

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As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

As of build 6.18.00, build utilities used in the creation of the option ROM will be included in the bundle file (.lbf file).

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

Core BIOS = 71 KB (45 KB Init Time, 23 KB Run Time)

Core CU = 119 KB

Total = 190 KB

Major Changes From Version 6.19.01.00:

General Changes

Functionality

- Updated algorithm to calculate CHS mapping using non-cylinder aligned values created by diskperf2.
- Updated algorithm to hide second path to dual-ported drives in IR screens.

Defect fixes

- Fixed IR volume display screen to prevent invalid information from being displayed when one volume display was scrolled then switched to other volume display.

Release Notes

MPT BIOS

Version 6.19.01

09/11/2007

Compatibility:

- 1064 A3 and later
- 1068 A0, B0 and later
- 1064e B0 and later
- 1068e B0 and later
- 1078 C0 and later

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As of build 6.18.00, build utilities used in the creation of the option ROM will be included in the bundle file (.lbf file).

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

Core BIOS = 71 KB (45 KB Init Time, 23 KB Run Time)

Core CU = 119 KB

Total = 190 KB

Major Changes From Version 6.18.01.00:

General Changes

Functionality

- Removed all LSI-generated INT21 calls in BIOS mode
- Incorporated build processes to allow for customization of Windows configuration utility display
- Force the CU to remove duplicate entry in IR configuration screens when a second [dual] path is detected for the same drive.
- Update build process to allow for single build script to update all BIOS builds in a single step.

Defect fixes

- None

Release Notes

MPT BIOS

Version 6.18.01

08/08/2007

Compatibility:

- 1064 A3 and later
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- 1064e B0 and later
- 1068e B0 and later
- 1078 C0 and later

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Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

Core BIOS = 71 KB (45 KB Init Time, 23 KB Run Time)

Core CU = 119 KB

Total = 190 KB

Major Changes From Version 6.18.00.00:

General Changes

Functionality

- Removed bus resets at initialization time and for device missing events.

Defect fixes

- None

Release Notes

MPT BIOS

Version 6.18.00

08/07/2007

Compatibility:

- 1064 A3 and later
- 1068 A0, B0 and later
- 1064e B0 and later
- 1068e B0 and later
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Current Errata

Option ROM Memory Utilization Estimate

Core BIOS = 71 KB (45 KB Init Time, 23 KB Run Time)

Core CU = 119 KB

Total = 190 KB

Major Changes From Version 6.17.03.00:

General Changes

Functionality

- Moved to GCA versioning for Phase 11.

Defect fixes

- None

Release Notes

MPT BIOS

Version 6.17.03.00

07/11/2007

Compatibility:

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- 1068 A0, B0 and later
- 1064e B0 and later
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Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.17.02.00:

General Changes

Functionality

- Added ability to disable display of “Report Device Missing Delay” field in Adapter Timing Properties screen

Defect fixes

- Remove Restore Defaults selection from Advanced Adapter Properties screen as there are no values remaining on the screen to restore.
- Update view array screen to automatically update display when a second hot spare is added to the array via the manage hot spare screen.
- Post a warning with a 5 second delay when ExHdr list is full. This replaces the keystroke requirement when too many devices are found at boot time.

Release Notes

MPT BIOS

Version 6.17.02.00

06/05/2007

Compatibility:

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- 1068 A0, B0 and later
- 1064e B0 and later
- 1068e B0 and later
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BIOS = 52.5 KB

Core CU = 120 KB

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Total = 221 KB

Major Changes From Version 6.17.01.00:

General Changes

Functionality

- Update debug routines to include log page 0 parsing.
- Update MPI headers to version 1.05.16 (Spec version 1.5.5).

Defect fixes

- Corrected invalid IRQ in BIOS CU “Advanced Adapter Properties” menu.
- Fix failure to prevent expansion header overrun in allocation routines.

Release Notes

MPT BIOS

Version 6.17.01.00

05/22/2007

Compatibility:

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- 1068 A0, B0 and later
- 1064e B0 and later
- 1068e B0 and later
- 1078 C0 and later

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Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.16.00.00:

General Changes

Functionality

- Added keystroke-invoked refresh option to View Array screen
- Added build utilities to default SDK bundle file (imgen, strgen, opgen)
- Changed references from LSI Logic Corporation to LSI Corporation to reflect corporate name change.

Defect fixes

- Update indexes for Advanced Device Pages to correct Restore Defaults issue
- Modified view array screen to handle inactive volumes with hot spares roamed on an expander to an adapter with active volume and hot spares.
- Updated indexing to display all inactive hot spares on an inactive volume.
- Update keystroke handlers to re-direct Shift+I key to F1 for invoking help on all screens.

Release Notes

MPT BIOS

Version 6.16.00.00

05/07/2007

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Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.15.04.00:

General Changes

Functionality

- Moved to GCA versioning for Phase 10.

Defect fixes

- None

Release Notes

MPT BIOS

Version 6.15.03

04/26/2007

Compatibility:

- 1064 A3 and later
- 1068 A0, B0 and later
- 1064e B0 and later
- 1068e B0 and later
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BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

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Total = 221 KB

Major Changes From Version 6.15.02.00:

General Changes

Functionality

- Added GUI library class to allow navigation between fields in view array screen.

Defect fixes

- Removed rescan for devices on any keystroke in view array screen. Rescan will now only be performed on Alt+N keystroke.
- Correct location for current DDF size setting from IOC Page 6 to Manufacturing Page 4. This will resolve coercion issues when calculating volume sizes in the CU.
- Update runtime memory allocation to allow full addressing of large topologies.

Release Notes

MPT BIOS

Version 6.15.02

04/09/2007

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BIOS = 52.5 KB

Core CU = 120 KB

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CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.15.01.00:

General Changes

Functionality

- Added SDK option to display IR volume drive size as physical disk size rather than used IR volume space
- Added functionality to delete missing hot spares on either volume when they are encountered.

Defect fixes

- Forced retention of Identify LED information when device list is repopulated to prevent multiple volumes from being identified simultaneously.
- Changed retrieval of speed negotiation information in SAS Topology screen from slot based to phy based to allow for non-zero based slot designators.
- Changed address method for hot spare indexing to allow all hot spares to be created on a second adapter.
- Disabled MMIO for CU and core BIOS
- Updated text string capitalization for consistency
- Removed requirement for missing hot spares to be associated with a specific volume type.
- Removed SAVECTOR functionality from base BIOS build

Release Notes

MPT BIOS

Version 6.15.01

03/02/2007

Compatibility:

- 1064 A3 and later
- 1068 A0, B0 and later
- 1064e B0 and later
- 1068e B0 and later
- 1078 C0 and later

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.14.04.00:

General Changes

Functionality

- Added additional information detailing foreign metadata removal steps.
- Created SDK-enabled option for disabling SMART filtering. This field is hidden by default in our GCA packages.
- Changed both core BIOS and CU to use exclusively MMIO instead of PIO.
- Removed partition-specific checks for IM migration to occur on all partition types as long as sufficient metadata space is available.
- Removed alternate CHS mapping modes options

Defect fixes

- Removed erroneous display in SAS Topology for missing IR volume drives
- Updated options executable to resolve missing configuration utility options from being disabled.
- Resolved issue in rescanning topology when removal of devices sent the device count to none.

Release Notes

MPT BIOS

Version 6.14.04

02/27/2007

Compatibility:

- 1064 A3 and later
- 1068 A0, B0 and later
- 1064e B0 and later
- 1068e B0 and later
- 1078 C0 and later

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.14.03.00:

General Changes

Functionality

- Remove partition restriction for migrating IM volumes.

Defect fixes

- None

Release Notes

MPT BIOS

Version 6.14.03

02/16/2007

Compatibility:

- 1064 A3 and later
- 1068 A0, B0 and later
- 1064e B0 and later
- 1068e B0 and later
- 1078 C0 and later

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.14.02.00:

General Changes

Functionality

Defect fixes

- Added parenthesis to code, fixing a failure to detect F8 keystroke

Release Notes

MPT BIOS

Version 6.14.02

02/15/2007

Compatibility:

- 1064 A3 and later
- 1068 A0, B0 and later
- 1064e B0 and later
- 1068e B0 and later
- 1078 C0 and later

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.14.01.00:

General Changes

Functionality

- Added disaster recovery option for SAS Tape devices

Defect fixes

- Suppress spurious configuration page read errors for expected reads to unpopulated pages

Release Notes

MPT BIOS

Version 6.14.01

02/12/2007

Compatibility:

- 1064 A3 and later
- 1068 A0, B0 and later
- 1064e B0 and later
- 1068e B0 and later
- 1078 C0 and later

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.14.00.00:

General Changes

Functionality

- Update verification for orphaned hot spare when using enclosure slot mapping. This allows inadvertent insertion of incompatible hot spares to be removed.

Defect fixes

- Removal of locate identify LED prior to SAS Topology display.

Release Notes

MPT BIOS

Version 6.14.00

02/05/2007

Compatibility:

- 1064 A3, A4
- 1068 A0, B0, B1
- 1064e B0, B1
- 1068e B0, B1
- 1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

GCA build.

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.13.07.00:

General Changes

Functionality

- Moved to GCA versioning for Phase 9.

Defect fixes

- None.

Release Notes

MPT BIOS

Version 6.13.07

02/02/2007

Compatibility:

- 1064 A3, A4
- 1068 A0, B0, B1
- 1064e B0, B1
- 1068e B0, B1
- 1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.13.06.00:

General Changes

Functionality

- None.

Defect fixes

- Added additional hot spare size checks to ensure hot spares are appropriately sized before being included in volumes.
- Resolved IR volume issue preventing the addition of two hot spares on more than one adapter.
- Updated calculations for phy speeds associated with expanders using adapter handle of 1.

Release Notes

MPT BIOS

Version 6.13.06

01/30/2007

Compatibility:

- 1064 A3, A4
- 1068 A0, B0, B1
- 1064e B0, B1
- 1068e B0, B1
- 1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.13.05.00:

General Changes

Functionality

- Added support in SAS Topology screen for devices attached to enclosures with an enclosure handle of 1 (normally reserved for direct attached devices)

Defect fixes

- Fixed calculation of minimum LBA for hot spares. This was preventing appropriately sized hot spares from being added in the Manage Hot Spares screen.
- Rolled forward a fix to allow direct attached devices to be displayed in ascending order vs. phy order
- Updated hot spare calculations to allow IME volume hot spares to be displayed.
- Fixed IR volume information refreshes to handle changes in volume ordering in the firmware when a volume changes state without the CU making the change.

Release Notes

MPT BIOS

Version 6.13.05

01/16/2007

Compatibility:

- 1064 A3, A4
- 1068 A0, B0, B1
- 1064e B0, B1
- 1068e B0, B1
- 1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.13.04.00:

General Changes

Functionality

- None

Defect fixes

- Removed Verify command support for SATA drives due to no compatible bad block reassign equivalent command for SATA (SATA drives handle bad blocks internally)
- Added check for IR FW before checking IOC6 information. This was causing IT FW to issue config page read errors.
- Fixed illegal reference for getCUDisksIndex when non RAID volume adapters were scanned. Resolved issue with not allowing volumes to be created on adapters > index #0.
- Fixed issue with not being able to toggle a hot spare drive back on if the max number of hot spares was reached and we toggled one off.

Release Notes

MPT BIOS

Version 6.13.04

01/08/2007

Compatibility:

- 1064 A3, A4
- 1068 A0, B0, B1
- 1064e B0, B1
- 1068e B0, B1
- 1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.13.03.00:

General Changes

Functionality

- None

Defect fixes

- Update opgen to support additional string configuration parameters.
- Fixed issue with verify command failing to report proper ASC/ASCQ information when drives with bad sectors are attempting to reassign blocks after failed sector verify.
- Fixed miscellaneous string issues in display screens.

Release Notes

MPT BIOS

Version 6.13.03

12/06/2006

Compatibility:

1064 A3, A4
1068 A0, B0, B1
1064e B0, B1
1068e B0, B1
1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.13.02.00:

General Changes

Functionality

- Added ability to remove inactive hot spares from a inactive volumes

Defect fixes

- Fixed issues related to SAS Topology display only showing one hot spare
- Fixed delete when more than one hot spare are associated with a single volume
- Fixed Raid Properties screen to display a scrollbar when a volume exceeds 8 drives
- Added warning messages if the activation of an inactive volume would eliminate one or more hot spares
- Fixed spurious incompatible hot spare messages when deleting a hot spare or creating a volume in the CU
- Cleanup of our code handling PCI 3.0 reallocation of our 2K unload footprint

Release Notes

MPT BIOS

Version 6.13.02

11/22/2006

Compatibility:

- 1064 A3, A4
- 1068 A0, B0, B1
- 1064e B0, B1
- 1068e B0, B1
- 1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.13.01.00:

General Changes

Functionality

- Added ability to create a SAS and a SATA Hot Spare.

Defect fixes

- Fixed issue with maintaining the state of other LED's when activating locate.

Version 6.13.01

11/20/2006

Compatibility:

- 1064 A3, A4
- 1068 A0, B0, B1
- 1064e B0, B1
- 1068e B0, B1
- 1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.13.01.00:

General Changes

Functionality

- Added user message denoting failed volume activation
- Changed CU enclosure logical ID to expander SAS address when doing SMP Report General in topology display
- Added the ability to detect foreign metadata
- Added phy/bay number to RAID physical disks in topology display
- Added 3 second delay following display of the “Invoking CU” message after user selects Ctrl-C to handle slow video initialization on some systems.
- Updated to 1.05.14 MPI headers to match Phase 9 firmware
- Added ability to create up to 10 drive in a single IS/IME volume with appropriate firmware support.
- Added ability to create IR volumes including up to 14 total drives per adapter with appropriate firmware support
- Added ability to create up to two hot spares per adapter with appropriate firmware support
- Updated validation of available metadata space on new IR volume drives to 512MB for adapters with Phase 9 firmware

Defect fixes

- Updated BIOS banner to display >2TB volumes in post banner
- An initialization flag in initialization space was erased at the end of initialization, then used one more time before the return. Moved the flag into run time space so that it can be used as intended.
- BBS header update to handle PCI 3.0 system BIOS issues.
- Check ScsiStatus when a malfunctioning device fails inquiry to prevent device from being ignored in BIOS scan.
- Add a 3 second delay following display of “Invoking CU” message after CU entry control sequence is entered.
- Fixed issue with Ctrl-C in remote terminal environment holding the system in locked state.

Version 6.12.01

11/17/2006

Compatibility:

- 1064 A3, A4
- 1068 A0, B0, B1
- 1064e B0, B1
- 1068e B0, B1
- 1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.12.00.00:

General Changes

Functionality

- None.

Defect fixes

- Fixed issue with drive failing inquiry leading to multiple instances of failure (one for each LUN reported).

Release Notes

MPT BIOS

Version 6.12.00

10/31/2006

Compatibility:

- 1064 A3, A4
- 1068 A0, B0, B1
- 1064e B0, B1
- 1068e B0, B1
- 1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

GCA build.

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.11.01.00:

General Changes

Functionality

- Moved to GCA versioning for Phase 8.

Defect fixes

- None

Release Notes

MPT BIOS

Version 6.11.02

10/20/2006

Compatibility:

- 1064 A3
- 1068 A0, B0
- 1064e B0, B1
- 1068e B0, B1
- 1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.11.01.00:

General Changes

Functionality

- None.

Defect fixes

- Deactivated the Verify option in CU Device Properties for SATA Drives because we do not support reassignment of bad blocks for SATA devices.

Release Notes

MPT BIOS

v. 6.11.01

9/26/2006

Compatibility:

- 1064 A3
- 1068 A0, B0
- 1064e B0, B1
- 1068e B0, B1
- 1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.10.00.00:

General Changes

Functionality

- Mark additional strings as modifiable
- Add more device properties

Defect fixes

- An initialization flag in initialization space was erased at the end of initialization, then used one more time before the return. Moved the flag into run time space so that it can be used as needed.
- Increase timeout for drive spin-up
- Remove phy error thresholds
- Include inactive volumes in the hot spare check
- Block synchronize array with a failed disk present

Release Notes

MPT BIOS

Version 6.10.00

9/07/2006

Compatibility:

- 1064 A3
- 1068 A0, B0
- 1064e B0, B1
- 1068e B0, B1
- 1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

GCA build.

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.09.04.00:

General Changes

Functionality

- Move to GCA version number for phase 7.

Defect fixes

Release Notes

MPT BIOS

Version 6.09.04

8/31/2006

Compatibility:

- 1064 A3
- 1068 A0, B0
- 1064e B0, B1
- 1068e B0, B1
- 1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Beta build.

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.09.03.00:

General Changes

Functionality

- Adjust BBS path information to include # sign.

Defect fixes

Release Notes

MPT BIOS

Version 6.09.03

8/21/2006

Compatibility:

- 1064 A3
- 1068 A0, B0
- 1064e B0, B1
- 1068e B0, B1
- 1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Beta build.

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Systems running IT firmware version 0.10.14 or greater need to run 6.09.03. IR firmware is not affected.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.09.02.00:

General Changes

Functionality

- Display high nibble of PCI bus in BBS string.
- Change CU invocation keyboard scan to use functions 0h and 1h instead of 10h and 11h.
- Insert delay after displaying string indicating that the CU will load at the end of POST (via INT 19h).
- Restore delay in scan for Ctrl key at BIOS load.
- CU: Remove phy error threshold settings – previously hidden.

Defect fixes

- Limit device scan
 - Issue: When running 10.14 IT firmware, the max device count is over 128. The BIOS will scan for this higher number of devices even though its internal structures are statically sized to 128 entries, thereby corrupting other parts of the structures.
 - Reported by: SW Test
 - Reproduction: Run the BIOS on a system with 10.14 or greater IT firmware and drives connected. The drives will not show in the banner.
 - Change: Limit device scans to 128 devices maximum.

Release Notes

MPT BIOS

Version 6.09.02

8/7/2006

Compatibility:

- 1064 A3
- 1068 A0, B0
- 1064e B0, B1
- 1068e B0, B1
- 1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Beta build.

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.09.01.00:

General Changes

Functionality

- Switch to a split ROM image to minimize run-time memory utilization.
- CU: Replace bus reset with a device reset to help with hot-plug.
- CU: Correct behavior of port down retry timers.
- CU: Add connector info from manufacturing page 7.
- CU: Remove phy error counters and threshold settings.
- CU: Improve config page error reporting.
- CU: Change SATA detection for non-compliant expanders.

Defect fixes

- CU: Switch to port IO. (From 6.08.04)
 - Issue: The CU's protected mode switch code for MMIO has an issue in Intel Core based processors.
 - Reported by: OEM
 - Reproduction: Try to load the CU in a system based on Conroe or Woodcrest processors.
 - Change: Use the port IO implementation from the core BIOS so that the CU can avoid switching processor mode completely.
- BBS Issue
 - Issue: The BIOS could make an incorrect call in its BCV in PCI 3.0 systems.
 - Reported by: SW Test
 - Reproduction: Load two LSI SAS controllers in a PCI 3.0 system and it can cause the BIOS to execute twice.
 - Change: Fix issue with BCV generation.
- Spin-up flag
 - Issue: If a spin-up properties item was changed, the CU will always ask for it to be saved.

- Reported by: SW Test
- Reproduction: Change a property, exit, save, re-enter, re-exit, see that it offers to save.
- Change: Correct handling of the flag to clear it.

Release Notes

MPT BIOS

Version 6.09.01

6/29/2006

Compatibility:

- 1064 A3
- 1068 A0, B0
- 1064e B0, B1
- 1068e B0, B1
- 1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Alpha build.

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.08.03.00:

General Changes

Functionality

- Added code to treat an ASC/ASCQ of 04/11 the same as 04/01 (device becoming ready).
- CU: Move RAID enabled detection code so that it is executed much less often.
- CU: Increase config page timeout to deal with slow IOC page 2 response.
- CU: Use manufacturing page 7 to get the direct attached "enclosure" name.
- CU: Improved handling of aborted IOs.
- CU: General string cleanup.

Defect fixes

- CU: RAID creation
 - Issue: Fix issue with RAID creation with no drives.
 - Reported by: OEM
 - Reproduction: Select two drives to be in an IM volume, but then unselect them so that no drives are selected. Press 'C' and the CU will try to create a volume and hang.
 - Change: Check for zero drives in a volume. The case of more than zero but not enough was already handled.

Release Notes

MPT BIOS

Version 6.08.05

8/02/2006

Compatibility:

- 1064 A3
- 1068 A0, B0
- 1064e B0, B1
- 1068e B0, B1
- 1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

These notes are inserted from a branch.

Point release.

Change from 6.08.04 fixes an Expansion Header segment error.

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 43.5 KB

Core CU = 140 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Release Notes

MPT BIOS

Version 6.08.04

7/13/2006

Compatibility:

- 1064 A3
- 1068 A0, B0
- 1064e B0, B1
- 1068e B0, B1
- 1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

These notes are inserted from a branch.

Point release.

First build that fully supports Intel Core based processors.

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.08.03.00:

General Changes

Functionality

Defect fixes

- CU: Switch to port IO.
 - Issue: The CU's protected mode switch code for MMIO has an issue in Intel Core based processors.
 - Reported by: OEM
 - Reproduction: Try to load the CU in a system based on Conroe or Woodcrest processors.
 - Change: Use the port IO implementation from the core BIOS so that the CU can avoid switching processor mode completely.

Release Notes

MPT BIOS

Version 6.08.03

6/28/2006

Compatibility:

- 1064 A3
- 1068 A0, B0
- 1064e B0, B1
- 1068e B0, B1
- 1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Fixes and improvements in this build:

Check in code to issue a Logical Unit Reset to HP tape drive.
Changed and moved code to detect HP tape drive with disaster recovery media.

Release Notes

MPT BIOS

Version 6.08.02

6/26/2006

Compatibility:

1064 A3
1068 A0, B0
1064e B0, B1
1068e B0, B1
1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Fixes and improvements in this build:

Display KB, MB, and GB for drive sizes

Added display of NV version to the adapter banner display

Fixed display of El Torito CD/Tape characteristics which, though covered by other print statements were not consistent in all cases.

Removed a stray "INT 3" which was left behind during debugging.

Release Notes

MPT BIOS

Version 6.08.00

6/9/2006

Compatibility:

1064 A3
1068 A0, B0
1064e B0, B1
1068e B0, B1
1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

GCA build.

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.07.04.00:

General Changes

Functionality

- Move to GCA version number for phase 6.

Defect fixes

Release Notes

MPT BIOS

Version 6.07.04

6/5/2006

Compatibility:

- 1064 A3
- 1068 A0, B0
- 1064e B0, B1
- 1068e B0, B1
- 1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Beta build.

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 120 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 221 KB

Major Changes From Version 6.07.03.00:

General Changes

Functionality

- Move to the latest readwrit.c to remove INT 3 instructions.

Defect fixes

- CU: ATAPI display
 - Issue: Fix issue with ATAPI display and volume activation.
 - Reported by: SW Test
 - Reproduction: Try to create a RAID volume while an ATAPI device is present (mid-bus) or try to activate a volume.
 - Change: Fix a problem in the drive lookup code.
- CU: 2 TB display
 - Issue: Fix issue with display of volume members.
 - Reported by: SW Test
 - Reproduction: View the sizes of the member drives in an IM volume.
 - Change: Add code to set the member drive size for IM volumes (already worked for IS and IME).

Release Notes

MPT BIOS

Version 6.07.03

5/22/2006

Fixed in this build:

An OEM has a platform which does not issue a PCI reset on warm boot. 6.07.02 attempted to work around that issue, but messed up with two or more adapters. This build fixes that by detecting previous installs. Also, prevent INT13 hook if CU is invoked. The OEM defaults to rehooking INT19 after we hook, and that causes us to try to use an 'open' INT13 hook.

Compatibility:

- 1064 A3
- 1068 A0, B0
- 1064e B0, B1
- 1068e B0, B1
- 1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Release Notes

MPT BIOS

Version 6.07.02

5/16/2006

Compatibility:

- 1064 A3
- 1068 A0, B0
- 1064e B0, B1
- 1068e B0, B1
- 1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 117 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 218 KB

Major Changes From Version 6.07.01.00:

General Changes

Functionality

- Complete addition of Ctrl-H and Ctrl-R invocation keys.
- Only update PCI slot information in config page when needed.
- Cut BIOS EBDA usage by about 50%.
- CU: Change spinup properties screen to timing properties and add device missing delay timers.
- CU: Fix issue with SATA CD-ROMs under RAID properties.

Defect fixes

- 64-bit volume issue
 - Issue: When viewing a > 2 TB volume in RAID properties, the member phys disks would show the wrong size.
 - Reported by: Development
 - Reproduction: Create a > 2 TB volume and then view it.
 - Change: Change a specific calculation to use a 64-bit integer.
- SATA CD-ROM issue
 - Issue: A SATA CD-ROM can show up in the wrong spot.
 - Reported by: SW Test
 - Reproduction: Put a SATA CD-ROM in the middle of several hard drives and try to create a volume. The CD-ROM will show up.
 - Change: Change some sort code to exclude CD-ROMs.

Release Notes

MPT BIOS

Version 6.07.01

4/28/2006

Compatibility:

- 1064 A3
- 1068 A0, B0
- 1064e B0, B1
- 1068e B0, B1
- 1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 117 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 218 KB

Major Changes From Version 6.06.07.00:

General Changes

Functionality

- Change reply FIFO host signaling handling due to an interaction with the NetWare driver.
- Add Ctrl-R and Ctrl-H keystrokes to BIOS (SDK option).
- Update MPI headers to version 1.05.13.
- CU: Remove old PCIe part build option (now always builds).
- CU: Add display for NVDATA version.
- CU: Initial support for RAID volumes larger than 2 TB.
- CU: Improve handling of IT firmware builds.

Defect fixes

- Handle port enable problems
 - Issue: Increase port enable timeout to 130 seconds for IT firmware.
 - Reported by: OEM
 - Reproduction: With a failed drive, the BIOS would timeout port enable before the firmware was done with it.
 - Change: Increase the BIOS timeout beyond the length of the firmware's own timeout.

Release Notes

MPT BIOS

Version 6.06.07

4/7/2006

Compatibility:

- 1064 A3
- 1068 A0, B0
- 1064e B0, B1
- 1068e B0, B1
- 1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

This is a point release.

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 52.5 KB

Core CU = 117 KB

CU Strings = 32 KB

CU Misc. = 16 KB

Total = 218 KB

Major Changes From Version 6.06.06.00:

General Changes

Functionality

- Add 5 second timeout while waiting for a Ctrl key press at load time.
- CU: Remove phy error counters and threshold settings by default. Can be reenabled via SDK.
- CU: Remove code that blocked the synchronize array option on non-optimal volumes.
- CU: Minor change to RAID help text.

Defect fixes

- Locate handling
 - Issue: CU: CU: Cleanup locate LED handling.
 - Reported by: OEM
 - Reproduction: On some paths through the RAID code, the LEDs could be left in the wrong state.
 - Change: Changed method of restoring LEDs from a cache to a more dynamic method that is based on the current state.

Release Notes

MPT BIOS

Version 6.06.06

3/23/2006

Compatibility:

1064 A3
1068 A0, B0
1064e B0, B1
1068e B0, B1
1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 64 KB

Core CU = 117 KB

CU Strings = 32 KB

CU Misc. = 8 KB

Total = 221 KB

Major Changes From Version 6.06.05.00:

General Changes

Functionality

Defect fixes

- Refresh issue
 - Issue: CU: Display issue after topology refresh.
 - Reported by: OEM
 - Reproduction: On the SAS topology screen, refresh the topology. One of the drive's ID string will be replaced with SAS1068(xx:xx:00).
 - Change: Remove a memory deallocation that was causing this issue.

Release Notes

MPT BIOS

Version 6.06.05

3/17/2006

Compatibility:

1064 A3
1068 A0, B0
1064e B0, B1
1068e B0, B1
1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 64 KB

Core CU = 115 KB

CU Strings = 32 KB

CU Misc. = 8 KB

Total = 219 KB

Major Changes From Version 6.06.04.00:

General Changes

Functionality

- Move location (within the image) of some CD boot code.
- Add OEM specific option to build as a PCI 2.X option ROM.
- CU: Restore code to support multiple adapters properly.
- CU: Reenable previous LED state after a locate operation.
- CU: Add handling of the task terminated IOCStatus.
- CU: Modify boot device code to use default settings in BIOS page 2 when moving between drive selection and volume selection.
- CU: Cleanup some error path code.

Defect fixes

- Boot device selection
 - Issue: CU: Fix problem with selecting a volume as a boot device.
 - Reported by: OEM
 - Reproduction: Select a volume as the boot device in SAS topology. In 6.06.04 it would not save the setting, so when the user left and reentered the screen, the setting was no longer there.
 - Change: Block the reading of a config page that is not there for RAID volumes. This read was failing and causing the function to return an error.

Release Notes

MPT BIOS

Version 6.06.04

3/7/2006

Compatibility:

- 1064 A3
- 1068 A0, B0
- 1064e B0, B1
- 1068e B0, B1
- 1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 64 KB

Core CU = 115 KB

CU Strings = 32 KB

CU Misc. = 8 KB

Total = 219 KB

Major Changes From Version 6.06.03.00:

General Changes

Functionality

- Add multiboot CD support.
- CU: Add more changes for VT100 support.
- CU: Cleanup strings and set some more of them to read/write.
- CU: Add support for NetWare 3.xx and 4.xx partition types.

Defect fixes

- Fix issue with INT 19h interaction with PCI 3.00 self-relocation.
 - Issue: When using INT 19h invocation in some PCI 3.00 systems, the CU would not load.
 - Reported by: Development
 - Reproduction: See issue
 - Change: Fix issue with the destination segment.
- CU: Fix problem with bay numbering.
 - Issue: When in bay mapping mode, the CU would show different bay values in SAS topology and device properties.
 - Reported by: OEM
 - Reproduction: Connect a backplane that supports mapping and view bay number in SAS topology and slot number in device properties (Alt+D) – they should be the same.
 - Change: Fix issue with the read code that fills in the controls.
- CU: Fix for NCQ – saving and restoring values.
 - Issue: Could not save values for NCQ changes in debug mode.
 - Reported by: OEM
 - Reproduction: See issue
 - Change: Check flag for saving NCQ changes.
- CU: Improve SATA hot plug handling.
 - Issue: A moved SATA drive may not appear correctly.
 - Reported by: SW Test

- Reproduction: Hot move a SATA drive from one slot to another while refreshing in the SAS topology screen. The old drive position will have a blank line.
 - Change: Add code to handle a selection timeout for a drive that is reported as present.
- CU: Fix the restore defaults function in advanced device properties.
 - Issue: Pressing restore defaults in advanced device properties could restore the wrong values.
 - Reported by: OEM
 - Reproduction: See issue
 - Change: Fix alignment issue with the code that gets the defaults.
- CU: Fix locate LED issue with hot spare deletion.
 - Issue: In some situations, the locate LEDs would not be in a proper state.
 - Reported by: OEM
 - Reproduction: When creating or deleting a hot spare, after the process, the hot spare's locate LED could be in the wrong state.
 - Change: Add code to refresh the locate LEDs after a hot spare action.

Release Notes

MPT BIOS

Version 6.06.03

2/15/2006

Compatibility:

1064 A3
1068 A0, B0
1064e B0, B1
1068e B0, B1
1078 C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 64 KB

Core CU = 115 KB

CU Strings = 32 KB

CU Misc. = 8 KB

Total = 219 KB

Major Changes From Version 6.06.02.00:

General Changes

Functionality

- Reduce init-time data segment to 48 KB.
- CU: Improve boot device selection support (Alt-B).
- CU: Improved error display for config page errors (error getting NVM settings).
- CU: Block force synchronization of degraded and missing volumes.
- CU: Update several strings based on OEM feedback.
- WINCU: Code cleanup.

Defect fixes

- Fix problem with INT 19h in combination with a disabled adapter.
 - Issue: In certain cases, the CU could not be invoked.
 - Reported by: Software Test
 - Reproduction: Set the boot support option to OS only in adapter properties, save the setting, and reboot. On a system that uses INT 19h, the CU will not invoke, but will hang the system instead. A system that can use PMM will work correctly.
 - Change: Modify the CU load code to handle the case where the INT 13h chain had not been hooked. Modify the IO code to handle the case where the IO structures did not exist in the run-time location.

Release Notes

MPT BIOS

Version 6.06.02

2/1/2006

Compatibility:

- 1064 A3
- 1068 A0, B0
- 1064e B0, B1
- 1068e B0, B1
- 1078 B0, C0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 64 KB

Core CU = 115 KB

CU Strings = 32 KB

CU Misc. = 8 KB

Total = 219 KB

Major Changes From Version 6.06.01.00:

General Changes

Functionality

- Add support for the SAS 1078.
- CU: Check manufacturing page 4 for RAID enable/disable settings.
- WINCU: Code cleanup.

Defect fixes

- CU: Fix issue with resync progress shown on IME volumes after creation.
 - Issue: The CU would show an IME volume as resyncing.
 - Reported by: Software Test
 - Reproduction: Create an IM volume with data migration first, then create an IME volume. The IME volume will show 0% resyncing.
 - Change: In this one case, the CU would send an incorrect flag during the IME volume creation operation. This would cause the resync flag to get triggered. The fix is to clear the flag when it is not needed.

Release Notes

MPT BIOS

Version 6.06.01

1 /26/2006

Compatibility:

- 1064 A3
- 1068 A0, B0
- 1064e B0, B1
- 1068e B0, B1

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Restriction removed:

Multiple initiators connected to one target are not supported.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 64 KB

Core CU = 112 KB

CU Strings = 32 KB

CU Misc. = 8 KB

Total = 216 KB

Major Changes From Version 6.05.06.00:

General Changes

Functionality

- Reenable PCI 3.0.
- CU: Improve support for VT100.
- CU: Add BIOS Simulator to the source path. Set the SIMULATOR variable to YES in the CU makefile.

Defect fixes

- CU: Improve handling of multiple initiator environments.
 - Issue: The CU would report incorrect information in some situations.
 - Reported by: Software Test
 - Reproduction: Configure a system with two different initiators (1064 and 1068 were used) connected to the same drive via an expander. When the user changes between the two controllers, the new controller can display information from the previous controller.
 - Change: Store all information in the controller info structure instead of using the BIOS/CU interface structure in conjunction with it.

Release Notes

MPT BIOS

Version 6.06.00

2/9/2006

Compatibility:

1064 A3

1068 A0, B0

1064e B0, B1

1068e B0, B1

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Multiple initiators connected to one target are not supported.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 64 KB

Core CU = 112 KB

CU Strings = 32 KB

CU Misc. = 8 KB

Total = 216 KB

Major Changes From Version 6.05.06.00:

General Changes

Functionality

- Update version number for GCA.

Defect fixes

- CU: Remove OS only and disabled options for adapter support.
 - Issue: When OS only or disabled are selected for adapter support, the CU cannot load via INT 19h (PMM works).
 - Reported by: Software Test
 - Reproduction: See issue.
 - Change: Remove the options in adapter properties.

Release Notes

MPT BIOS

Version 6.05.06

1 / 16 / 2006

Compatibility:

1064 A3

1068 A0, B0

1064e B0, B1

1068e B0, B1

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Multiple initiators connected to one target are not supported.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 64 KB

Core CU = 112 KB

CU Strings = 32 KB

CU Misc. = 8 KB

Total = 216 KB

Major Changes From Version 6.05.05.00:

General Changes

Functionality

- CU: Remove help key (F1) from format and verify screens.
- CU: Change screen flow to return to adapter properties after a volume activation operation.
- CU: Delete any hot spare after adding a secondary drive when hot spares are disabled (used when appropriate) in the CU behavioral options.

Defect fixes

- CU: Fix check for appropriate hot spare.
 - Issue: The hot spare “appropriateness” check could fail in a valid situation.
 - Reported by: Software Test
 - Reproduction: Create an IM volume with a matched hot spare. Next, add an IME volume with three or more drives of the same size. The CU will then warn that the hot spare is inappropriate, even though it is fine. A similar problem happens on delete. It will always delete the hot spare from a volume, even if another volume remains that is capable of using the hot spare.
 - Change: Modify the code that checks the volumes to correctly handle these situations.

Release Notes

MPT BIOS

Version 6.05.05

1 / 6 / 2006

Compatibility:

1064 A3

1068 A0, B0

1064e B0, B1

1068e B0, B1

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Multiple initiators connected to one target are not supported.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 64 KB

Core CU = 112 KB

CU Strings = 32 KB

CU Misc. = 8 KB

Total = 216 KB

Major Changes From Version 6.05.04.00:

General Changes

Functionality

- Add pause on RAID volume alert message (when enabled).
- CU: Allow use of initiator/targets as targets.
- CU: Move inactive volume code in SAS topology.
- CU: Add key help to global properties.
- CU: Change IO timeout handler to issue a bus reset before resorting to a diag reset.
- CU: Change the alignment of some fields in spinup properties.
- CU: Always show volume 0 when entering RAID properties.

Defect fixes

- Fix issue with exit of DOS MPT utilities.
 - Issue: When a DOS utility that uses MPT exits, it would not leave the controller in a state that the BIOS can use.
 - Reported by: OEM
 - Reproduction: Exit a utility (such as MPTUTIL) and run an INT 13h command.
 - Change: Reinitialize the chip when a command times out.
- CU: Fix issue with hot spares showing up twice.
 - Issue: A hot spare would show up twice in the existing array properties.
 - Reported by: Software Test
 - Reproduction: Create an IM volume with a hot spare and remove the secondary. Notice that the array view lists two secondary drives after this.
 - Change: Change the sorting loop to not pull in the hot spare twice.
- CU: Fix display of device not responding in SAS topology.
 - Issue: If a device is not responding, SAS topology would not show the "DEVICE NOT RESPONDING" string.
 - Reported by: Software Test

- Reproduction: Get a drive into a state where it is not responding.
- Change: Add code to detect the state and allow the existing device not responding string to be displayed.

Release Notes

MPT BIOS

Version 6.05.04

12/15/2005

Compatibility:

1064 A3

1068 A0, B0

1064e B0, B1

1068e B0, B1

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Multiple initiators connected to one target are not supported.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 64 KB

Core CU = 112 KB

CU Strings = 32 KB

CU Misc. = 8 KB

Total = 216 KB

Major Changes From Version 6.05.03.00:

General Changes

Functionality

Defect fixes

- CU: Increase IO timeout to 10 seconds for SCSI IOs.
 - Issue: Some drive operations require a very long time to complete, and the CU would reset the controller in the middle of the operation.
 - Reported by: OEM
 - Reproduction: Use a drive with a bad block and a very long bad block recovery window in a RAID volume and view the volume in the CU.
 - Change: Increase the timeout from 3 to 10 seconds.

Release Notes

MPT BIOS

Version 6.05.03

12/13/2005

Compatibility:

- 1064 A3
- 1068 A0
- 1068 B0
- 1064e B0
- 1068e B0

Builds released:

Integrated RAID and Initiator/Target Release

MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Multiple initiators connected to one target are not supported.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 64 KB

Core CU = 112 KB

CU Strings = 32 KB

CU Misc. = 8 KB

Total = 216 KB

Major Changes From Version 6.05.02.02:

General Changes

Functionality

- Reenable SAS 106Xe support.
- CU: Add help string for NCQ.
- CU: Cleanup spinup strings.

Defect fixes

- CU: Fix display of unmanaged expanders with a SEP.
 - Issue: With a backplane that contains a SEP without enclosure information, the expander field in SAS topology is empty.
 - Reported by: Software Test
 - Reproduction: Find a backplane matching this description and view the expander identifier field in SAS topology. It will be a –.
 - Change: Added an else case to catch this and issue an SMP report manufacturer.
- CU: During rescan, wait for discovery completion before accessing drives.
 - Issue: When a rescan was issued, false drive information could be displayed.
 - Reported by: OEM
 - Reproduction: Perform a hot plug and rescan in SAS topology. Random phy numbers will appear.
 - Change: Add a check of SAS IO Unit page 0 after the rescan bus reset to ensure that discovery is complete prior to rescanning.
- CU: Handle zero device configurations in RAID Properties.
 - Issue: Sometimes, the CU would show a phantom RAID volume.
 - Reported by: OEM
 - Reproduction: Remove all drives and view an existing array in RAID Properties. A phantom IS volume will appear.

- Change: Handle the zero drive case by blocking the viewing of an existing array.

Release Notes

MPT BIOS

Version 6.05.02.02

12/06/2005

Compatibility:

1064 A3
1068 A0
1068 B0

Builds released:

Integrated RAID and Initiator/Target Release

1064 A3, 1068 A0 – MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

1064 A3, 1068 A0 – MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Multiple initiators connected to one target are not supported.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 64 KB

Core CU = 112 KB

CU Strings = 32 KB

CU Misc. = 8 KB

Total = 216 KB

Major Changes From Version 6.05.02.01:

General Changes

Functionality

- Rework PMM allocations to use one PMM allocation and then distribute memory to the CU as needed.

Defect fixes

Release Notes

MPT BIOS

Version 6.05.02.01

12/06/2005

Compatibility:

1064 A3
1068 A0
1068 B0

Builds released:

Integrated RAID and Initiator/Target Release

1064 A3, 1068 A0 – MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

1064 A3, 1068 A0 – MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Multiple initiators connected to one target are not supported.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 64 KB

Core CU = 112 KB

CU Strings = 32 KB

CU Misc. = 8 KB

Total = 216 KB

Major Changes From Version 6.05.02.00:

General Changes

Functionality

- 6.05.02.01 is a merge of 6.04.07 and 6.05.02 without the PMM allocation. It only uses free memory allocations.

Defect fixes

Release Notes

MPT BIOS

Version 6.05.02

12/05/2005

Compatibility:

1064 A3
1068 A0
1068 B0

Builds released:

Integrated RAID and Initiator/Target Release

1064 A3, 1068 A0 – MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

1064 A3, 1068 A0 – MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Multiple initiators connected to one target are not supported.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 64 KB

Core CU = 112 KB

CU Strings = 32 KB

CU Misc. = 8 KB

Total = 216 KB

Major Changes From Version 6.05.01.00:

General Changes

Functionality

- Break PMM allocation test into three segments to maximize chances of success.
- Change invoking configuration utility string to be more generic.
- CU: Add debug code for RAID Properties enable.
- CU: Add Alt-F hot key to invoke low-level format.
- CU: Make spinup properties fields loop to 0 instead of 1.
- CU: Remove lower help line from spinup properties screen.
- CU: Suppress display of device information for missing IR disks.
- CU: Suppress display of the ID field for an inactive volume.
- CU: Remove check for FUA for SATA RAID disks.
- CU: Make the first entry into RAID properties always go to volume 0.
- CU: Hide the create array screen when entering RAID Properties and there are no disks available.
- CU: Sort disks by enclosure/slot when displayed on RAID screens.

Defect fixes

- Increase the bus reset timeout to 10 seconds.
 - Issue: In certain scenarios, the bus reset that is issued at the start of discovery will timeout.
 - Reported by: OEM
 - Reproduction: This requires a bus reset to take over 3 seconds, typically due to a task management timeout.
 - Change: Increase the CU's timeout from 3 seconds to 10 seconds.

Release Notes

MPT BIOS

Version 6.05.01

11/16/2005

Compatibility:

1064 A3
1068 A0
1068 B0

Builds released:

Integrated RAID and Initiator/Target Release

1064 A3, 1068 A0 – MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

1064 A3, 1068 A0 – MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Multiple initiators connected to one target are not supported.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 64 KB

Core CU = 112 KB

CU Strings = 30 KB

CU Misc. = 8 KB

Total = 214 KB

Major Changes From Version 6.04.07.00:

General Changes

Functionality

- Add support for INT 19h based memory allocation. Use PMM as primary allocation method and use INT 19h as the backup.
- CU: Block activation of failed volumes.
- CU: Support disabling of hot spare management screen except when a drive is missing. Enabled via SDK.
- CU: Add view existing array option when RAID Properties is selected.
- CU: Allow SDK to disable Spinup Properties screen and contents.
- CU: Expand phy error count field widths in Phy Properties.
- CU: Add permanently degraded state.
- CU: Block addition of hot spare to permanently degraded volume.

Defect fixes

- Fix handling of multiple adapters with mismatched BIOS versions.
 - Issue: Two controllers with different BIOS versions may conflict.
 - Reported by: Development
 - Reproduction: Invoke the CU with two cards in the system, with significantly different BIOS versions.
 - Change: Better mechanism for communicating the source adapter to the CU.
- CU: Fix false listing of an expander in SAS topology.
 - Issue: The CU would report a controller as an expander in the topology display.
 - Reported by: Software Test
 - Reproduction: View a controller.
 - Change: Change the screen to list it as a controller.
- CU: Fix problem passing check conditions from lower level.
 - Issue: The lower, IO layers of the CU would not propagate a check condition status out.

- Reported by: OEM
 - Reproduction: Verify a drive with a known bad block – it will pass without any errors.
 - Change: Set the check condition flag so that the upper level can handle the error.
- CU: Allow the disable of the first, selectable item on a screen.
 - Issue: When the first selectable object on a screen is disabled, it will create a phantom entry.
 - Reported by: Development
 - Reproduction: Remove the first option from the select array type menu and notice an extra entry.
 - Change: Change guilib handling to correctly detect a disabled object in the first position.

Release Notes

MPT BIOS

Version 6.04.07

11/03/2005

Compatibility:

1064 A3

1068 A0

1068 B0

Builds released:

Integrated RAID and Initiator/Target Release

1064 A3, 1068 A0 – MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

1064 A3, 1068 A0 – MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

If multiple 106X adapters are in a system, they must have the same BIOS version.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. See release notes for version 6.04.06 for more information.

Multiple initiators connected to one target are not supported.

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 64 KB

Core CU = 112 KB

CU Strings = 30 KB

CU Misc. = 8 KB

Total = 214 KB

Major Changes From Version 6.04.06.00:

General Changes

Functionality

Defect fixes

- CU: Fix handling of two arrays simultaneously in resync state.
 - Issue: When two arrays are in the resync state simultaneously, the resync progress will show the value from the first array to resync for both arrays.
 - Reported by: Software Test
 - Reproduction: Start two arrays resyncing together and then view the two arrays.
 - Change: Set the second array to 0% resync'd until it begins to resync.
- CU: Allow activation of volumes when 10 phys disks are present.
 - Issue: Cannot activate a volume when 10 total phys disks are present.
 - Reported by: Software Test
 - Reproduction: With an existing volume, try to activate another that would bring the total drive count to 10.
 - Change: Change the code to test for the count being one greater than the max, not equal to it.

Release Notes

MPT BIOS

Version 6.04.06

10/21/2005

Compatibility:

1064 A3
1068 A0
1068 B0

Builds released:

Integrated RAID and Initiator/Target Release

1064 A3, 1068 A0 – MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

1064 A3, 1068 A0 – MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

If multiple 106X adapters are in a system, they must have the same BIOS version.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. It is sufficient for lab use; however, there is a problem that will appear infrequently. Please see hardware errata listing “Accessing the SAS1064/SAS1068 Host Registers mapped in IO Space as the SAS1064/SAS1068 is reading data over the PCI-X interface may result in corrupt data being written to a SAS or SATA drive.” for details

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 64 KB

Core CU = 112 KB

CU Strings = 30 KB

CU Misc. = 8 KB

Total = 214 KB

Major Changes From Version 6.04.05.00:

General Changes

Functionality

- CU: Change SDK tags for several strings
- CU: Add max values to phy error popups

Defect fixes

- Improvement to timeout handling.
 - Issue: When an error happened on the second IO, the BIOS would not recognize the next interrupt due to the host reply signaling implementation.
 - Reported by: OEM
 - Reproduction: Specific error situation.
 - Change: Added code to return an invalid context on timeouts. Also added code to zero the last reply signal value in IOC init, which is called after every reset.
- CU: Clear locate LEDs on volume deletion
 - Issue: When a volume was deleted, the locate LEDs for the volume would stay on.
 - Reported by: Developer
 - Reproduction: Delete a volume and notice that the locate LEDs are still on.
 - Change: Clear LEDs after deletion.

Release Notes

MPT BIOS

Version 6.04.05

10/13/2005

Compatibility:

1064 A3
1068 A0
1068 B0

Builds released:

Integrated RAID and Initiator/Target Release

1064 A3, 1068 A0 – MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

1064 A3, 1068 A0 – MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

If multiple 106X adapters are in a system, they must have the same BIOS version.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. It is sufficient for lab use; however, there is a problem that will appear infrequently. Please see hardware errata listing “Accessing the SAS1064/SAS1068 Host Registers mapped in IO Space as the SAS1064/SAS1068 is reading data over the PCI-X interface may result in corrupt data being written to a SAS or SATA drive.” for details

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 64 KB

Core CU = 112 KB

CU Strings = 30 KB

CU Misc. = 8 KB

Total = 214 KB

Major Changes From Version 6.04.04.00:

General Changes

Functionality

- CU: Enforce a maximum volume size of 2 TB. Warn when this is reached.
- CU: Add feature to allow the hot spare column to be disabled.
- CU: Make custom header line modifiable.

Defect fixes

- CU: Compare drive type of a volume by comparing to the first present disk.
 - Issue: Drives would show Wrg Intfc when trying to add a hot spare to a volume.
 - Reported by: SW Test
 - Reproduction: Remove the first drive from a volume with SAS drives, try to add a SAS drive as a hot spare.
 - Change: Changed the drive type check to look at the first non-missing drive as opposed to the first drive.

Release Notes

MPT BIOS

Version 6.04.04

10/3/2005

Compatibility:

1064 A3
1068 A0
1068 B0

Builds released:

Integrated RAID and Initiator/Target Release

1064 A3, 1068 A0 – MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

1064 A3, 1068 A0 – MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

If multiple 106X adapters are in a system, they must have the same BIOS version.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. It is sufficient for lab use; however, there is a problem that will appear infrequently. Please see hardware errata listing “Accessing the SAS1064/SAS1068 Host Registers mapped in IO Space as the SAS1064/SAS1068 is reading data over the PCI-X interface may result in corrupt data being written to a SAS or SATA drive.” for details

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 64 KB

Core CU = 112 KB

CU Strings = 30 KB

CU Misc. = 8 KB

Total = 214 KB

Major Changes From Version 6.04.03.00:

General Changes

Functionality

- Enable 1064E and 1068E support.
- CU: Add spinup properties page with expander spinup control.
- CU: Add optional branding to CU header.
- CU: Add optional double confirmation during RAID volume creation and deletion (disabled by default).

Defect fixes

Release Notes

MPT BIOS

Version 6.04.03

9/21/2005

Compatibility:

- 1064 A3
- 1068 A0
- 1068 B0

Builds released:

Integrated RAID and Initiator/Target Release

1064 A3, 1068 A0 – MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

1064 A3, 1068 A0 – MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

If multiple 106X adapters are in a system, they must have the same BIOS version.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. It is sufficient for lab use; however, there is a problem that will appear infrequently. Please see hardware errata listing “Accessing the SAS1064/SAS1068 Host Registers mapped in IO Space as the SAS1064/SAS1068 is reading data over the PCI-X interface may result in corrupt data being written to a SAS or SATA drive.” for details

Current Errata

Option ROM Memory Utilization Estimate

BIOS = 64 KB

Core CU = 110 KB

CU Strings = 30 KB

CU Misc. = 8 KB

Total = 212 KB

Major Changes From Version 6.04.02.00:

General Changes

Functionality

- Display RAID alert in banner for volumes that are inactive and optimal.
- Display SMART errors for drives in RAID volumes.
- CU: Allow the removal of the migrate volume option via SDK.
- CU: Add hidden debug screen.

Defect fixes

- Fix string size issue in banner discovery error display.
 - Issue: String sizes were not properly aligned.
 - Reported by: Development
 - Reproduction: None.
 - Change: Change alignment.
- Expand header string parameters to match new string.
 - Issue: String size for SDK was not big enough.
 - Reported by: Development
 - Reproduction: None.
 - Change: Change tag value.
- Temporarily disable PCI 3.0.
 - Issue: The BIOS's PCI 3.0 implementation has BBS related issues.
 - Reported by: OEM
 - Reproduction: Use the BIOS in a PCI 3.0 system that uses self-relocation.
 - Change: Removed PCI 3.0 support pending a permanent fix.

Release Notes

MPT BIOS

Version 6.04.02

9/8/2005

Compatibility:

1064 A3
1068 A0
1068 B0

Builds released:

Integrated RAID and Initiator/Target Release

1064 A3, 1068 A0 – MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

1064 A3, 1068 A0 – MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

If multiple 106X adapters are in a system, they must have the same BIOS version.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. It is sufficient for lab use; however, there is a problem that will appear infrequently. Please see hardware errata listing “Accessing the SAS1064/SAS1068 Host Registers mapped in IO Space as the SAS1064/SAS1068 is reading data over the PCI-X interface may result in corrupt data being written to a SAS or SATA drive.” for details

Current Errata

The BIOS does not load in one system model because that system only supports PCI 2.x compliant option ROMs.

Major Changes From Version 6.04.01.00:

General Changes

Functionality

Defect fixes

- Remove INT 19h based memory allocation.
 - Issue: The allocation fails on some systems.
 - Reported by: Software test
 - Reproduction: The BIOS fails to enter the CU on some systems.
 - Change: Temporarily removed INT 19h code.

Release Notes

MPT BIOS

Version 6.04.01

9/1/2005

Compatibility:

1064 A3
1068 A0
1068 B0

Builds released:

Integrated RAID and Initiator/Target Release

1064 A3, 1068 A0 – MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

1064 A3, 1068 A0 – MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

If multiple 106X adapters are in a system, they must have the same BIOS version.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. It is sufficient for lab use; however, there is a problem that will appear infrequently. Please see hardware errata listing “Accessing the SAS1064/SAS1068 Host Registers mapped in IO Space as the SAS1064/SAS1068 is reading data over the PCI-X interface may result in corrupt data being written to a SAS or SATA drive.” for details

Current Errata

The BIOS does not load in one system model because that system only supports PCI 2.x compliant option ROMs.

Major Changes From Version 6.04.00.00:

General Changes

Functionality

- Add INT 19h based failover memory allocation.
- Update to MPI 1.05.12 headers.
- CU: Report any SMART error on a RAID physical disk.
- CU: Add IME support.

Defect fixes

- Correct problem with PCI 3.0 self-relocation.
 - Issue: The previous versions reported PCI 3.0 support, but did not handle self-relocation.
 - Reported by: OEM
 - Reproduction: Seen in certain systems.
 - Change: Corrected the problem.
- CU: Correct handling of an inactive volume in SAS topology.
 - Issue: When an inactive volume was listed in SAS topology, one of the drive slots would be left blank.
 - Reported by: OEM
 - Reproduction: Create an inactive volume and view it in SAS topology.
 - Change: Fix an internal structure for the drive.

Release Notes

MPT BIOS

Version 6.04.00

8/29/2005

Compatibility:

1064 A3
1068 A0
1068 B0

Builds released:

Integrated RAID and Initiator/Target Release

1064 A3, 1068 A0 – MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

1064 A3, 1068 A0 – MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

If multiple 106X adapters are in a system, they must have the same BIOS version.

Does not support creation of IME volumes.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. It is sufficient for lab use; however, there is a problem that will appear infrequently. Please see hardware errata listing “Accessing the SAS1064/SAS1068 Host Registers mapped in IO Space as the SAS1064/SAS1068 is reading data over the PCI-X interface may result in corrupt data being written to a SAS or SATA drive.” for details

Current Errata

The BIOS does not work properly in PCI 3.0 based systems that relocate the run-time code. It works properly in all other PCI 2.x and PCI 3.0 systems.

The BIOS does not load in one system model because that system only supports PCI 2.x compliant option ROMs.

Major Changes From Version 6.03.01.00:

General Changes

Functionality

- Change version number to a GCA version (6.04.00).

Release Notes

MPT BIOS

Version 6.03.01

8/23/2005

Compatibility:

- 1064 A3
- 1068 A0
- 1068 B0

Builds released:

Integrated RAID and Initiator/Target Release

1064 A3, 1068 A0 – MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

1064 A3, 1068 A0 – MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

If multiple 106X adapters are in a system, they must have the same BIOS version or NO BIOS.

Does not support creation of IME volumes.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. It is sufficient for lab use; however, there is a problem that will appear infrequently. Please see hardware errata listing “Accessing the SAS1064/SAS1068 Host Registers mapped in IO Space as the SAS1064/SAS1068 is reading data over the PCI-X interface may result in corrupt data being written to a SAS or SATA drive.” for details

Current Errata

The BIOS does not work properly in PCI 3.0 based systems that relocate the run-time code. It works properly in all other PCI 2.x and PCI 3.0 systems.

The BIOS does not load in one system model because that system only supports PCI 2.x compliant option ROMs.

Major Changes From Version 6.03.00.00:

General Changes

Functionality

- CU: Display hot spares that belong to an inactive volume.
- CU: Enable locate LEDs for volumes when the volume is being managed.
- CU: Enable locate LEDs when a drive is selected in device properties.

Defect fixes

- CU: Increase FORMAT UNIT timeout to 60 sec.
 - Issue: Drives by one vendor take a long time to begin the format.
 - Reported by: OEM
 - Reproduction: Format a drive by the vendor.
 - Change: Increased timeout by vendor recommendation.
- CU: Add recognition of partition type 0xBF.
 - Issue: Need to recognize partition type 0xBF (new Solaris x86 partition type).
 - Reported by: OEM
 - Reproduction: Use a drive with partition type 0xBF as the secondary, and the RAID create will fail.
 - Change: Recognize partition type.
- CU: Fix expander and phy strings in SAS topology for the unmanaged expander case.
 - Issue: Did not display expander and phys strings.
 - Reported by: Software test
 - Reproduction: Connect and expander and observe SAS topology.
 - Change: Modify string display logic.
- CU: Fix for using 10 total drives in a volume.
 - Issue: Drives would grey out incorrectly when selecting 10 total drives for a volume.

- Reported by: Software test
 - Reproduction: Create a volume and get the total drives in both volumes >10. Newly added drives will grey out.
 - Change: Modify drive display logic.
- CU: Fix issue with ESC key being pressed on exit confirmation screen when leaving SAS topology.
 - Issue: When in SAS topology, escaping from the exit screen would cause a bad screen sequence.
 - Reported by: Software test
 - Reproduction: Clear persistent mappings, escape, escape again, and escape a third time. At this point, the CU will display the first screen.
 - Change: Change handling of the escape.

Release Notes

MPT BIOS

Version 6.03.00

8/5/2005

Compatibility:

1064 A3
1068 A0
1068 B0

Builds released:

Integrated RAID and Initiator/Target Release

1064 A3, 1068 A0 – MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

1064 A3, 1068 A0 – MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

If multiple 106X adapters are in a system, they must have the same BIOS version or NO BIOS.

Does not support creation of IME volumes.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. It is sufficient for lab use; however, there is a problem that will appear infrequently. Please see hardware errata listing “Accessing the SAS1064/SAS1068 Host Registers mapped in IO Space as the SAS1064/SAS1068 is reading data over the PCI-X interface may result in corrupt data being written to a SAS or SATA drive.” for details

Current Errata

The BIOS does not work properly in PCI 3.0 based systems that relocate the run-time code. It works properly in all other PCI 2.x and PCI 3.0 systems.

The BIOS does not load in one system model because that system only supports PCI 2.x compliant option ROMs.

Major Changes From Version 6.02.04.00:

General Changes

Functionality

- CU: Update several strings for improved consistency.

Defect fixes

- CU: Fix SATA validity check code.
 - Issue: Bad pointer reference
 - Reported by: Developer
 - Reproduction: Not seen
 - Change: Fix pointer reference
- CU: Fix volume activation portion of hot spare check.
 - Issue: Inactive volume cannot be activated
 - Reported by: Software Test
 - Reproduction: Try to activate an inactive volume
 - Change: Fix hot spare check to allow activate of volume that does not have a hot spare

Release Notes

MPT BIOS

Version 6.02.04

8/2/2005

Compatibility:

1064 A3
1068 A0
1068 B0

Builds released:

Integrated RAID and Initiator/Target Release

1064 A3, 1068 A0 – MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

1064 A3, 1068 A0 – MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

If multiple 106X adapters are in a system, they must have the same BIOS version or NO BIOS.

Does not support creation of IME volumes.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. It is sufficient for lab use; however, there is a problem that will appear infrequently. Please see hardware errata listing “Accessing the SAS1064/SAS1068 Host Registers mapped in IO Space as the SAS1064/SAS1068 is reading data over the PCI-X interface may result in corrupt data being written to a SAS or SATA drive.” for details

Current Errata

The BIOS does not work properly in PCI 3.0 based systems that relocate the run-time code. It works properly in all other PCI 2.x and PCI 3.0 systems.

The BIOS does not load in one system model from one OEM; however, it loads in all other tested systems.

Major Changes From Version 6.02.03.00:

General Changes

Functionality

- CU: Change refresh to happen on a press of the 'R' key.
- CU: Improved handling of hot spares. Prevent the user from creating hot spares that may not be usable for all volumes.
- CU: Modify references to expanders to include enclosures.
- CU: Change SAS topology to either list an enclosure with bays or an expander with phys.

Defect fixes

Release Notes

MPT BIOS

Version 6.02.03

7/26/2005

Compatibility:

- 1064 A3
- 1068 A0
- 1068 B0

Builds released:

Integrated RAID and Initiator/Target Release

1064 A3, 1068 A0 – MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

1064 A3, 1068 A0 – MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

If multiple 106X adapters are in a system, they must have the same BIOS version or NO BIOS.

Does not support creation of IME volumes.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. It is sufficient for lab use; however, there is a problem that will appear infrequently. Please see hardware errata listing “Accessing the SAS1064/SAS1068 Host Registers mapped in IO Space as the SAS1064/SAS1068 is reading data over the PCI-X interface may result in corrupt data being written to a SAS or SATA drive.” for details

Current Errata

None

Major Changes From Version 6.02.02.00:

General Changes

Functionality

- Remove IME support temporarily – Still enabled in DOS build.

Defect fixes

- Correct IME resync calculations.
- Fix problem with selection of 10 total RAID disks.
- Correct ID problem while creating second volume.

Release Notes

MPT BIOS

Version 6.02.02

7/20/2005

Compatibility:

- 1064 A3
- 1068 A0
- 1068 B0

Builds released:

Integrated RAID and Initiator/Target Release

1064 A3, 1068 A0 – MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

1064 A3, 1068 A0 – MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

If multiple 106X adapters are in a system, they must have the same BIOS version or NO BIOS.

Does not support creation of IME volumes.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. It is sufficient for lab use; however, there is a problem that will appear infrequently. Please see hardware errata listing “Accessing the SAS1064/SAS1068 Host Registers mapped in IO Space as the SAS1064/SAS1068 is reading data over the PCI-X interface may result in corrupt data being written to a SAS or SATA drive.” for details

Current Errata

None

Major Changes From Version 6.02.01.00:

General Changes

Functionality

- CU: Change the refresh period to 1 minute.

Defect fixes

- Fix project problem with the 6.02.01 build. 6.02.01 inadvertently used the 6.02.00 CU, not the 6.02.01 CU.
- opgen.exe: Fix Alt+A keystroke handling.

Release Notes

MPT BIOS

Version 6.02.01

7/18/2005

Compatibility:

- 1064 A3
- 1068 A0
- 1068 B0

Builds released:

Integrated RAID and Initiator/Target Release

1064 A3, 1068 A0 – MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

1064 A3, 1068 A0 – MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

If multiple 106X adapters are in a system, they must have the same BIOS version or NO BIOS.

Does not support creation of IME volumes.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. It is sufficient for lab use; however, there is a problem that will appear infrequently. Please see hardware errata listing “Accessing the SAS1064/SAS1068 Host Registers mapped in IO Space as the SAS1064/SAS1068 is reading data over the PCI-X interface may result in corrupt data being written to a SAS or SATA drive.” for details

Current Errata

None

Major Changes From Version 6.02.00.00:

General Changes

Functionality

- Modify the banner RAID alert to include inactive and resyncing status values.
- Update to the MPI 1.5.10 headers.
- Add a no SAS address alert to the banner.
- Make the default behavior to pause on error – BIOS SDK modifiable
- Merge several source files.
- CU: Add the preliminary implementation of enclosure/slot mapping. This changes the SAS topology screen.
- CU: Add support for enclosure/slot mapping to the boot device policy. Control with BootDeviceForm field in BIOS page 2 in NVDATA.
- CU: Modifications to shared EFI code.
- CU: Use BIOS page 1 MaxTargetSpinup value.
- CU: Add Alt+A hotkey to the adapter properties screen to allow entry into advanced adapter properties. If the advanced adapter properties field is disabled with the BIOS SDK, this screen can still be entered using the hotkey.
- CU: Add slot number to device properties field.
- CU: Refresh the SAS topology screen every minute. This operation includes a bus reset to ensure that hot plugs are recognized.
- CU: Add unknown as a volume type. Used for missing volumes.
- CU: Use config page to check for a SATA drive instead of a SATA IO.
- CU: Change internal handling of the format and verify progress bars.
- CU: Add text to activate array and create array help screens to make certain conditions more understandable.
- CU: Remove certain debug code.
- CU: Enable IME support.

Defect fixes

- CU: Display the drive serial number for RAID physical disks
- CU: Use diag reset at the start of the CU instead of message unit reset.
- CU: Add support for RAID passthrough to SCSI IO code.

Release Notes

MPT BIOS

Version 6.02.00

7/8/2005

Compatibility:

1064 A3

1068 A0

Builds released:

Integrated RAID and Initiator/Target Release

1064 A3, 1068 A0 – MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

1064 A3, 1068 A0 – MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

If multiple 106X adapters are in a system, they must have the same BIOS version or NO BIOS.

Does not support creation of IME volumes.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. It is sufficient for lab use; however, there is a problem that will appear infrequently. Please see hardware errata listing "Accessing the SAS1064/SAS1068 Host Registers mapped in IO Space as the SAS1064/SAS1068 is reading data over the PCI-X interface may result in corrupt data being written to a SAS or SATA drive." for details

Current Errata

The Integrated RAID build currently has the following restrictions:

- Integrated Mirroring Enhanced volume type not supported

Refer to MPT SAS Firmware Release Notes for firmware restrictions.

Major Changes From Version 6.01.06.00:

General Changes

Functionality

- Change version number to 6.02.00 for GCA

Defect fixes

Release Notes

MPT BIOS

Version 6.01.06

7/6/2005

Compatibility:

1064 A3

1068 A0

Builds released:

Integrated RAID and Initiator/Target Release

1064 A3, 1068 A0 – MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

1064 A3, 1068 A0 – MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

If multiple 106X adapters are in a system, they must have the same BIOS version or NO BIOS.

Does not support creation of IME volumes.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. It is sufficient for lab use; however, there is a problem that will appear infrequently. Please see hardware errata listing “Accessing the SAS1064/SAS1068 Host Registers mapped in IO Space as the SAS1064/SAS1068 is reading data over the PCI-X interface may result in corrupt data being written to a SAS or SATA drive.” for details

Current Errata

The Integrated RAID build currently has the following restrictions:

- Integrated Mirroring Enhanced volume type not supported

Refer to MPT SAS Firmware Release Notes for firmware restrictions.

Major Changes From Version 6.01.05.00:

General Changes

Functionality

Defect fixes

- Changed handling of reply FIFO signaling in core BIOS to correct behavior. Issue: discrepancy between HW implementation and MPI spec.

Release Notes

MPT BIOS

Version 6.01.05

6/28/2005

Compatibility:

1064 A3

1068 A0

Builds released:

Integrated RAID and Initiator/Target Release

1064 A3, 1068 A0 – MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

1064 A3, 1068 A0 – MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

If multiple 106X adapters are in a system, they must have the same BIOS version or NO BIOS.

Does not support creation of IME volumes.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. It is sufficient for lab use; however, there is a problem that will appear infrequently. Please see hardware errata listing "Accessing the SAS1064/SAS1068 Host Registers mapped in IO Space as the SAS1064/SAS1068 is reading data over the PCI-X interface may result in corrupt data being written to a SAS or SATA drive." for details

Current Errata

The Integrated RAID build currently has the following restrictions:

- Integrated Mirroring Enhanced volume type not supported

Refer to MPT SAS Firmware Release Notes for firmware restrictions.

Major Changes From Version 6.01.04.00:

General Changes

Functionality

- CU: Add screen to delete a missing hot spare in RAID management
- CU: Modify volume display on SAS topology screen to list inactive and failed volumes as such, instead of showing "DEVICE NOT RESPONDING"

Defect fixes

- CU: Modify RAID create screen to properly handle configurations with one or more inactive volumes

Release Notes

MPT BIOS

Version 6.01.04

6/16/2005

Compatibility:

1064 A3

1068 A0

Builds released:

Integrated RAID and Initiator/Target Release

1064 A3, 1068 A0 – MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

1064 A3, 1068 A0 – MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

If multiple 106X adapters are in a system, they must have the same BIOS version or NO BIOS.

Does not support creation of IME volumes.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. It is sufficient for lab use; however, there is a problem that will appear infrequently. Please see hardware errata listing “Accessing the SAS1064/SAS1068 Host Registers mapped in IO Space as the SAS1064/SAS1068 is reading data over the PCI-X interface may result in corrupt data being written to a SAS or SATA drive.” for details

Current Errata

The errata list contains items that will be addressed prior to General Customer Availability (GCA). Please note there are several minor items that are not listed.

The Integrated RAID build currently has the following restrictions:

- Integrated Mirroring Enhanced volume type not supported

Refer to MPT SAS Firmware Release Notes for firmware restrictions.

Major Changes From Version 6.01.03.00:

General Changes

Functionality

- Added basic 106XE support – Disabled in the release build
- Add BIOS SDK option to use PMM memory allocation only (as opposed to the default free memory allocation method). When PMM is enabled, the BIOS will fail if there is not enough PMM available.
- CU: Change Alt+B in SAS topology page to allow a boot device to be deselected
- CU: Block SEP messages to enclosure 0
- CU: Prevent the display of hot spares of a different type than the volume
- CU: Remove legacy cross channel support
- CU: Set the volume ID to that of the lowest disk in volume during creation
-

Defect fixes

- Store PCI slot number in IOC Page 1
- CU: Fix several spelling errors in the SDK source files

Release Notes

MPT BIOS

Version 6.01.03

5/27/2005

Compatibility:

1064 A3

1068 A0

Builds released:

Integrated RAID and Initiator/Target Release

1064 A3, 1068 A0 – MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

1064 A3, 1068 A0 – MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

If multiple 106X adapters are in a system, they must have the same BIOS version or NO BIOS.

Does not support creation of IME volumes.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. It is sufficient for lab use; however, there is a problem that will appear infrequently. Please see hardware errata listing “Accessing the SAS1064/SAS1068 Host Registers mapped in IO Space as the SAS1064/SAS1068 is reading data over the PCI-X interface may result in corrupt data being written to a SAS or SATA drive.” for details

Current Errata

The errata list contains items that will be addressed prior to General Customer Availability (GCA). Please note there are several minor items that are not listed.

The Initiator Target and Integrated RAID builds currently have the following restrictions:

- Configuration Utility – Link Error Settings have not been implemented in MPT Firmware, therefore the modification of Link Error Settings and the Reset Link Error Counts function of the Configuration Utility has not been tested.

The Initiator Target build currently has the following restrictions:

- No unique restrictions.

The Integrated RAID build currently has the following restrictions:

- Only 2 volumes may be created
- Integrated Mirroring Enhanced volume type not supported

Refer to MPT SAS Firmware Release Notes for firmware restrictions.

This BIOS build does not use PMM for memory allocations as this has caused problems on some platforms. However, there are two known systems from one OEM that cannot load the CU without PMM being enabled.

Major Changes From Version 6.01.02.00:

General Changes

Functionality

- Merge branch of code to enable PCI 3.0 compliant headers (still compatible with PCI 2.x)
- CU: Refresh volume map on activation
- CU: Enable locate LEDs when a drive is selected to be added to a volume
- CU: Report true hot spare size on RAID properties
- CU: Modify display of IME disk size to report size used on each disk (IME is not currently supported)

Defect fixes

- CU: Prevent marking of inactive volume as boot device
- CU: Minor internal fixes
- CU: Disable Insert and Delete keys on exit screens
- CU: Correctly report when a hot spare is too small on the RAID properties display

Release Notes

MPT BIOS

Version 6.01.02

5/18/2005

Compatibility:

1064 A3
1068 A0

Builds released:

Integrated RAID and Initiator/Target Release

1064 A3, 1068 A0 – MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

1064 A3, 1068 A0 – MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

If multiple 106X adapters are in a system, they must have the same BIOS version or NO BIOS.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. It is sufficient for lab use; however, there is a problem that will appear infrequently. Please see hardware errata listing “Accessing the SAS1064/SAS1068 Host Registers mapped in IO Space as the SAS1064/SAS1068 is reading data over the PCI-X interface may result in corrupt data being written to a SAS or SATA drive.” for details

Current Errata

The errata list contains items that will be addressed prior to General Customer Availability (GCA). Please note there are several minor items that are not listed.

The Initiator Target and Integrated RAID builds currently have the following restrictions:

- Configuration Utility – Link Error Settings have not been implemented in MPT Firmware, therefore the modification of Link Error Settings and the Reset Link Error Counts function of the Configuration Utility has not been tested.

The Initiator Target build currently has the following restrictions:

- No unique restrictions.

The Integrated RAID build currently has the following restrictions:

- Only 2 volumes may be created
- Integrated Mirroring Enhanced volume type not supported

Refer to MPT SAS Firmware Release Notes for firmware restrictions.

This BIOS build does not use PMM for memory allocations as this has caused problems on some platforms. However, there are two known systems from one OEM that cannot load the CU without PMM being enabled.

Major Changes From Version 6.01.01.00:

General Changes

Functionality

- None

Defect fixes

- Correct issue with the use of Reply FIFO Host Signaling.

Release Notes

MPT BIOS

Version 6.01.01

5/13/2005

Compatibility:

1064 A3
1068 A0

Builds released:

Integrated RAID and Initiator/Target Release

1064 A3, 1068 A0 – MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

1064 A3, 1068 A0 – MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

If multiple 106X adapters are in a system, they must have the same BIOS version or NO BIOS.

As of build 6.01.01, 1064 A2 silicon and older is not supported for released products using the SAS BIOS. It is sufficient for lab use; however, there is a problem that will appear infrequently. Please see hardware errata listing for details.

Current Errata

The errata list contains items that will be addressed prior to General Customer Availability (GCA). Please note there are several minor items that are not listed.

The Initiator Target and Integrated RAID builds currently have the following restrictions:

- Configuration Utility – Link Error Settings have not been implemented in MPT Firmware, therefore the modification of Link Error Settings and the Reset Link Error Counts function of the Configuration Utility has not been tested.

The Initiator Target build currently has the following restrictions:

- No unique restrictions.

The Integrated RAID build currently has the following restrictions:

- Only 2 volumes may be created
- Integrated Mirroring Enhanced volume type not supported

Refer to MPT SAS Firmware Release Notes for firmware restrictions.

This BIOS build does not use PMM for memory allocations as this has caused problems on some platforms. However, there are two known systems from one OEM that cannot load the CU without PMM being enabled.

Major Changes From Version 6.01.00.00:

General Changes

Functionality

- BIOS banner changes to report unsupported device (SAS or SATA when the NVDATA specifies only the other one).
- BIOS banner change to report non-optimal status of a volume.
- Enable Port IO.
- Use Reply FIFO Host Signaling to allow Port IO.

Defect fixes

- CU: Correct resync % complete status display and other minor fixes.
- CU: Change to correctly display inactive volumes when more than one volume is present.

Release Notes

MPT BIOS

Version 6.01.00

5/13/2005

Compatibility:

1064 A1

1064 A2

1068 A0

Builds released:

Integrated RAID and Initiator/Target Release

1064 A2, 1068 A0 – MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

1064 A1/A2, 1068 A0 – MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

If multiple 106X adapters are in a system, they must have the same BIOS version or NO BIOS.

Current Errata

The errata list contains items that will be addressed prior to General Customer Availability (GCA). Please note there are several minor items that are not listed.

The Initiator Target and Integrated RAID builds currently have the following restrictions:

- Configuration Utility – Link Error Settings have not been implemented in MPT Firmware, therefore the modification of Link Error Settings and the Reset Link Error Counts function of the Configuration Utility has not been tested.

The Initiator Target build currently has the following restrictions:

- No unique restrictions.

The Integrated RAID build currently has the following restrictions:

- Only 2 volumes may be created
- Integrated Mirroring Enhanced volume type not supported

Refer to MPT SAS Firmware Release Notes for firmware restrictions.

Version 6.00.03 of the SAS BIOS has a problem handling address line A20 on at least one PC platform.

In an attempt to be ‘universally compatible’ with all platforms, this version was written to use INT15h Function 24XX as the primary mechanism for A20 control. On the platform where it is known to fail, INT15h does work until DOS begins to overwrite memory and the interrupt vector table. It then fails

because a portion of the INT15h code is actually located in RAM, instead of System BIOS ROM. The delay routines suddenly 'disappear'.

The symptoms of this failure are these:

- The LSI Logic SAS BIOS loads, and the banner displays
- The firmware is initialized, and device scanning commences
- The devices are listed, and the banner displays the successfully installed message.
- When the device controlled by the SAS software begins to load DOS, the system hangs or reboots.

Until the software is rewritten to prevent this problem, there are several ways to avoid it:

- Boot DOS from a floppy
- Boot DOS from a drive not controlled by our SAS software. An IDE or SCSI drive will boot past the INT15h problem
- Boot into Windows or Linux

This BIOS build does not use PMM for memory allocations as this has caused problems on some platforms. However, there are two known systems from one OEM that cannot load the CU without PMM being enabled.

Major Changes From Version 6.00.04.00:

General Changes

Functionality

- Change version number to 6.01.00 for GCA.

Defect fixes

- None

Release Notes

MPT BIOS

Version 6.00.04

4/22/2005

Compatibility:

1064 A1

1064 A2

1068 A0

Builds released:

Integrated RAID and Initiator/Target Release

1064 A2, 1068 A0 – MPTSAS.ROM

Initiator/Target Release for Firmware Download Boot Systems

1064 A1 /A2, 1068 A0 – MPTSASDL.ROM

Special Notes for this build:

Most users will use MPTSAS.ROM.

If multiple 106X adapters are in a system, they must have the same BIOS version or NO BIOS.

Current Errata

The errata list contains items that will be addressed prior to General Customer Availability (GCA). Please note there are several minor items that are not listed.

The Initiator Target and Integrated RAID builds currently have the following restrictions:

- Configuration Utility – Link Error Settings have not been implemented in MPT Firmware, therefore the modification of Link Error Settings and the Reset Link Error Counts function of the Configuration Utility has not been tested.

The Initiator Target build currently has the following restrictions:

- No unique restrictions.

The Integrated RAID build currently has the following restrictions:

- Only 2 volumes may be created
- Integrated Mirroring Enhanced volume type not supported

Refer to MPT SAS Firmware Release Notes for firmware restrictions.

Version 6.00.03 of the SAS BIOS has a problem handling address line A20 on at least one PC platform.

In an attempt to be ‘universally compatible’ with all platforms, this version was written to use INT15h Function 24XX as the primary mechanism for A20 control. On the platform where it is known to fail, INT15h does work until DOS begins to overwrite memory and the interrupt vector table. It then fails

because a portion of the INT15h code is actually located in RAM, instead of System BIOS ROM. The delay routines suddenly 'disappear'.

The symptoms of this failure are these:

- The LSI Logic SAS BIOS loads, and the banner displays
- The firmware is initialized, and device scanning commences
- The devices are listed, and the banner displays the successfully installed message.
- When the device controlled by the SAS software begins to load DOS, the system hangs or reboots.

Until the software is rewritten to prevent this problem, there are several ways to avoid it:

- Boot DOS from a floppy
- Boot DOS from a drive not controlled by our SAS software. An IDE or SCSI drive will boot past the INT15h problem
- Boot into Windows or Linux

This BIOS build does not use PMM for memory allocations as this has caused problems on some platforms. However, there are two known systems from one OEM that cannot load the CU without PMM being enabled.

Major Changes From Version 6.00.03.00:

General Changes

Functionality

- Start free memory search at 1000h paragraphs (64KB).
- Update shared MPI headers to 1.5.9.
- CU: Allow a user to enter the Manage Array screen and delete an array when it is not present.
- CU: Refresh IR info after a volume activate.
- CU: Change the R key to C in display devices screen (clear mappings).
- CU: Add Alt+M keystroke to display devices screen to show more keys.
- CU: Remove old drive identify method from device properties.
- CU: Add SEP support to enable the locate LED on a drive from the device display screen.

Defect fixes

- Modification to INT 13h handling for cases with a floppy or no emulation CD and without a hard disk present.
- CU: Fix column alignment issue.
- CU: Fix internal indexing error.
- CU: Handle multiple missing IR disks.

Release Notes

MPT BIOS

Version 6.00.03

3/23/2005

Compatibility:

1064 A1

1064 A2

1068 A0

Builds released:

Initiator/Target Release

1064 A1/A2, 1068 A0 – MPTSASIT.ROM

Integrated RAID Release

1064 A2, 1068 A0 – MPTSASIR.ROM

Special Notes for this build:

If multiple 106X adapters are in a system, they must have the same BIOS version or NO BIOS.

Current Errata

The errata list contains items that will be addressed prior to General Customer Availability (GCA). Please note there are several minor items that are not listed.

The Initiator Target and Integrated RAID builds currently have the following restrictions:

- Configuration Utility – Link Error Settings have not been implemented in MPT Firmware, therefore the modification of Link Error Settings and the Reset Link Error Counts function of the Configuration Utility has not been tested.

The Initiator Target build currently has the following restrictions:

- No unique restrictions.

The Integrated RAID build currently has the following restrictions:

- Only 2 volumes may be created
- Integrated Mirroring Enhanced volume type not supported

Refer to MPT SAS Firmware Release Notes for firmware restrictions.

Version 6.00.03 of the SAS BIOS has a problem handling address line A20 on at least one PC platform.

In an attempt to be ‘universally compatible’ with all platforms, this version was written to use INT15h Function 24XX as the primary mechanism for A20 control. On the platform where it is known to fail, INT15h does work until DOS begins to overwrite memory and the interrupt vector table. It then fails

because a portion of the INT15h code is actually located in RAM, instead of System BIOS ROM. The delay routines suddenly 'disappear'.

The symptoms of this failure are these:

- The LSI Logic SAS BIOS loads, and the banner displays
- The firmware is initialized, and device scanning commences
- The devices are listed, and the banner displays the successfully installed message.
- When the device controlled by the SAS software begins to load DOS, the system hangs or reboots.

Until the software is rewritten to prevent this problem, there are several ways to avoid it:

- Boot DOS from a floppy
- Boot DOS from a drive not controlled by our SAS software. An IDE or SCSI drive will boot past the INT15h problem
- Boot into Windows or Linux

This BIOS build does not use PMM for memory allocations as this has caused problems on some platforms. However, there are two known systems from one OEM that cannot load the CU without PMM being enabled.

Major Changes From Version 6.00.02.00:

General Changes

Functionality

- Remove DOS.H: it served no functional purpose
- Add fault codes for timeouts when issuing IOCInit, IOCFacts, and PortEnable messages
- Increase PortEnable timeout to 65 seconds to allow FW to timeout at 60 seconds (IT only)
- Change the process for checking the status of the A20 line. Now use a memory wrap test.

Defect fixes

- CU: Increase timeout for IOC Page 2 for IR initialization.

Release Notes

MPT BIOS

Version 6.00.02

3/9/2005

Compatibility:

1064 A1

1064 A2

1068 A0

Builds released:

Initiator/Target Release

1064 A1/A2, 1068 A0 – MPTSASIT.ROM

Integrated RAID Release

1064 A2, 1068 A0 – MPTSASIR.ROM

Special Notes for this build:

If multiple 106X adapters are in a system, they must have the same BIOS version or NO BIOS.

Current Errata

The errata list contains items that will be addressed prior to General Customer Availability (GCA). Please note there are several minor items that are not listed.

The Initiator Target and Integrated RAID builds currently have the following restrictions:

- Configuration Utility – Link Error Settings have not been implemented in MPT Firmware, therefore the modification of Link Error Settings and the Reset Link Error Counts function of the Configuration Utility has not been tested.

The Initiator Target build currently has the following restrictions:

- No unique restrictions.

The Integrated RAID build currently has the following restrictions:

- Only 2 volumes may be created
- Integrated Mirroring Enhanced volume type not supported

Refer to MPT SAS Firmware Release Notes for firmware restrictions.

Version 6.00.00 of the SAS BIOS has a problem handling address line A20 on at least one PC platform.

In an attempt to be ‘universally compatible’ with all platforms, this version was written to use INT15h Function 24XX as the primary mechanism for A20 control. On the platform where it is known to fail, INT15h does work until DOS begins to overwrite memory and the interrupt vector table. It then fails

because a portion of the INT15h code is actually located in RAM, instead of System BIOS ROM. The delay routines suddenly 'disappear'.

The symptoms of this failure are these:

- The LSI Logic SAS BIOS loads, and the banner displays
- The firmware is initialized, and device scanning commences
- The devices are listed, and the banner displays the successfully installed message.
- When the device controlled by the SAS software begins to load DOS, the system hangs or reboots.

Until the software is rewritten to prevent this problem, there are several ways to avoid it:

- Boot DOS from a floppy
- Boot DOS from a drive not controlled by our SAS software. An IDE or SCSI drive will boot past the INT15h problem
- Boot into Windows or Linux

This BIOS build does not use PMM for memory allocations as this has caused problems on some platforms. However, there are two known systems from one OEM that cannot load the CU without PMM being enabled.

Major Changes From Version 6.00.01.00:

General Changes

Functionality

- Update MPI headers to 1.5.8
- Change PCI header to add support for PCI 3.0
- Display the slot number instead of the HBA number in the BIOS banner
- CU: Set ZERO_LBA0 on deletion of IME/IS volume
- CU: Improved handling of missing IR disks
- CU: Add debug code and clean up linkage
- CU: Handle boot flag when making current boot disk a hotspare
- CU: Change disk coercion to use closest 1GB and use 64 MB LDF

Defect fixes

- Update boot.asm with PMM variable
- CU: Check actual image size on FWUpload
- CU: Check RaidAction Reply status when creating a volume
- CU: Boot device selection works for IR volumes
- CU: Improved display of pulled IR disks
- CU: Fix FW version display in CU to handle new IR product flags in FW
- CU: Check SAS IO Unit page 2 for boot selection parameters

Release Notes

MPT BIOS

Version 6.00.01

2/23/2005

Compatibility:

1064 A1
1064 A2
1068 A0

Builds released:

Initiator/Target Release

1064 A1/A2, 1068 A0 – MPTSASIT.ROM

Integrated RAID Release

1064 A2, 1068 A0 – MPTSASIR.ROM

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- Boot DOS from a floppy
- Boot DOS from a drive not controlled by our SAS software. An IDE or SCSI drive will boot past the INT15h problem
- Boot into Windows

This BIOS build does not use PMM for memory allocations as this has caused problems on some platforms. However, there are two known systems from one OEM that cannot load the CU without PMM being enabled.

Major Changes From Version 6.00.01.00:

General Changes

Functionality

- Add display of discovery errors on per expander basis
- Update copyright dates to 2005
- CU: Add topology display to replace device display
- CU: Change LDF size from 64MB to 32MB

Defect fixes

- Add clear of used PMM tracking area
- Change to unreal.asm
- Fix calculation of next image offset for images > 64KB
- Update files and makefile for FWDLB build
- Allocate local stack to account for DOS moving the stack and it gets smaller
- CU: IR release updates
- CU: Fix multi-digit phy properties scan order

Release Notes

MPT BIOS

Version 6.00.00

2/1/2005

Compatibility:

1064 A1
1064 A2
1068 A0

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1064 A1/A2, 1068 A0 – MPTSASIT.ROM

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- Boot into Windows

Major Changes From Version 5.99.13.00:

General Changes

Functionality

- None

Defect fixes

- Changed version number to 6.00.00 for GCA build

Older Release Notes

The release notes from versions older than 6.00.00 have been removed from this file. See versions of this file from build 6.04.03 or prior for older release notes.

NOTES, ISSUES and DETAILS

1. SAS BIOS Fault Codes

Value	Fault	Description
0x00	NO_FAULT	Reserved
0x01	NO_IO_PORT_ASSIGNED	The adapter was not assigned a PCI IO Port address by the System BIOS. The BIOS cannot initialize the adapter.
0x02	MPT_FW_FAULT	The Fusion-MPT firmware is in a fault state. The firmware fault code is also displayed. The BIOS cannot initialize the adapter
0x03	NO_IMAGE_FOR_FWDLB	The adapter requires Fusion-MPT firmware but there is no firmware image for the BIOS to download. The BIOS cannot initialize the adapter.
0x04	FWDLB_CHECKSUM_FAILED	The BIOS downloaded firmware to the adapter, the checksum of the

Value	Fault	Description
		downloaded firmware image failed. The BIOS cannot initialize the adapter.
0x05	IOC_HW_ERROR	The BIOS encountered a register communication error with the adapter. The BIOS cannot initialize the adapter.
0x06	MPT_FW_COMM_ERROR	The BIOS encountered a messaging communication error with the adapter. The BIOS cannot initialize the adapter.
0x07	PCI_BUS_MASTER_ERROR	Bus Master is disabled in the Command Register in PCI Configuration space. The BIOS was unsuccessful at enabling Bus Master. The BIOS cannot initialize the adapter.
0x08	STR_IMAGE_NOT_FOUND	BIOS text string image was not found.
0x09	STR_MEM_ALLOC_FAILED	Memory allocation for the BIOS text string image failed.
0x0A	STR_UPLOAD_FAILED	The upload of the BIOS text string image from adapter Flash memory failed.
0x0B	STR_INVALID_IMAGE	BIOS text string image checksum failed.
0x0C	UNSUPPORTED_IOC_CONFIG	The Fusion-MPT Firmware is incompatible with the BIOS. At a minimum, the following

Value	Fault	Description
		items are checked for compatibility: from IOC Facts Reply Message – Fusion-MPT firmware version, MPI version, Product Identifier.
0x0D	TIMEOUT_AWAITING_IOC_READY	Timeout occurred while waiting for the IOC to enter the READY state
0x0E	TX_DB_HANDSHAKE_ERROR	A Doorbell Write Handshake error was encountered.
0x0F	RX_DB_HANDSHAKE_ERROR	A Doorbell Read Handshake error was encountered.
0x10	NO_MMIO_ADDRESS_ASSIGNED	Failed to initialize memory mapped IO correctly
0x11	IOC_FACTS_FAILURE	Timeout occurred while waiting for a response to IOCFacts
0x12	IOC_INIT_FAILURE	Timeout occurred while waiting for a response to IOCInit
0x13	PORT_ENABLE_FAILURE	Timeout occurred while waiting for a response to PortEnable