



SCS Engineering Release Notice

Phase20 GCA Release Version 7.39.00.00 - SAS2BIOS_Phase20.0 (SCGCQ00768293)

(SCGCQ00768293) - Phase20 GCA Release Version 7.39.00.00 - SAS2BIOS_Phase20.0

(SCGCQ00739084) - Phase20 Pre-Alpha Release Version 7.38.02.00 - SAS2BIOS_Phase20.0

(SCGCQ00727541) - Phase20 Pre-Alpha Release Version 7.38.01.00 - SAS2BIOS_Phase20.0



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Phase20 GCA Release Version 7.39.00.00 - SAS2BIOS_Phase20.0 (SCGCQ00768293)

Defects=0, Enhancements=0 (Version Change Only)



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Phase20 Pre-Alpha Release Version 7.38.02.00 - SAS2BIOS_Phase20.0 (SCGCQ00739084)

Change Summary (Defects=1 Enhancements=2)

SCGCQ00725996 (DFCT) - Prevent conflict between UEFI BSD and Legacy BIOS when loaded in parallel, which can result in Legacy BIOS not functioning properly.

SCGCQ00710223 (ENHREQ) - Provide new information in the banner to inform the user of devices found and supported

SCGCQ00729455 (ENHREQ) - Updated the copyright headers of files and the Banner, POST and CU strings updated to Avago.



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Phase20 Pre-Alpha Release Version 7.38.02.00 - SAS2BIOS_Phase20.0 (SCGCQ00739084)

Total Defects Resolved (1)

(SCGCQ00725996)		Defect 1/1
HEADLINE:	Prevent conflict between UEFI BSD and Legacy BIOS when loaded in parallel, which can result in Legacy BIOS not functioning properly.	
DESC OF CHANGE:	The Legacy BIOS code is modified to check whether the firmware was initialized by the Legacy BIOS or UEFI BSD before passing the requests to the firmware. If the firmware was initialized by UEFI BSD, then the firmware will reinitialized by Legacy BIOS with proper memory allocated through Legacy BIOS.	
TO REPRODUCE:	Identified through code review and no specific steps to reproduce as generating the sequence Legacy BIOS->UEFI BSD->Legacy BIOS INT13 is system BIOS dependent.	
ISSUE DESC:	When both UEFI BSD and Legacy BIOS are allowed to load in the sequence Legacy BIOS->UEFI BSD->Legacy BIOS INT13 calls, the Legacy BIOS could try to write into space that had been allocated by the UEFI driver and later used by system BIOS for other purposes.	



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Phase20 Pre-Alpha Release Version 7.38.02.00 - SAS2BIOS_Phase20.0 (SCGCQ00739084)

Total Enhancements Implemented (2)

(SCGCQ00710223)	Enhancement 1/2
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HEADLINE:	Provide new information in the banner to inform the user of devices found and supported
NEW FUNCTIONALITY:	Replaced warning messages into a more informative format to accomplish two goals. First, they didn't really mean there was a problem, only that the limits of code had been attained. Second, they didn't provide much useful information. The new message does inform the user of the limits that were attained, and just how many devices actually exist that weren't fully supported.

(SCGCQ00729455)	Enhancement 2/2
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HEADLINE:	Updated the copyright headers of files and the Banner, POST and CU strings updated to Avago.
NEW FUNCTIONALITY:	All the places where ever LSI is used are replaced by Avago. The exception is if LSI is attached to product naming.



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Phase20 Pre-Alpha Release Version 7.38.01.00 - SAS2BIOS_Phase20.0 (SCGCQ00727541)

Change Summary (Defects=1 Enhancements=3)

SCGCQ00696485 (CSET) - Legacy BIOS failed to detect certain large capacity SAS drives

SCGCQ00630487 (CSET) - LSI Software RAID requires large allocations of EBDA memory, and LSI IT/IR BIOS code was modified to handle the scenario.

SCGCQ00718400 (CSET) - Configurable Product Name String in the Expansion ROM Headers

SCGCQ00718402 (CSET) - Support configurable timeout for Start Stop Unit Command.



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Phase20 Pre-Alpha Release Version 7.38.01.00 - SAS2BIOS_Phase20.0 (SCGCQ00727541)

Total Defects Resolved (1)

(SCGCQ00696485 - Port of SCGCQ00690241)		Defect 1/1
HEADLINE:	Legacy BIOS failed to detect certain large capacity SAS drives	
DESC OF CHANGE:	The BIOS code is modified to handle descriptor based sense data in all the locations where the sense data is inferred.	
TO REPRODUCE:	Use latest large capacity SAS drives which are capable of sending descriptor based sense data while drive is becoming ready Cold boot the system and observe BIOS doesn't detect the drive and OS detecting it.	
ISSUE DESC:	BIOS issues Test Unit Ready (TUR) to check the readiness of the drive. If the TUR response indicates that the drive is in the process of becoming ready then the BIOS polls the drive status for maximum of 30 seconds. The polling is done by issuing one TUR for every 100ms and checking the TUR status for Additional Sense Code (ASC). Since the BIOS infers the descriptor format sense data (ASC at byte 2) returned by the drive as fixed format (ASC at byte 12), the BIOS assumes the drive is not becoming ready and bails out early.	



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Phase20 Pre-Alpha Release Version 7.38.01.00 - SAS2BIOS_Phase20.0 (SCGCQ00727541)

Total Enhancements Implemented (3)

(SCGCQ00630487 - Port of SCGCQ00574410)

Enhancement 1/3

- HEADLINE:** LSI Software RAID requires large allocations of EBDA memory, and LSI IT/IR BIOS code was modified to handle the scenario.
- NEW FUNCTIONALITY:** The LSI IT/IR BIOS code was developed based on the specification statement that EBDA allocation will always be within 64K. When LSI Software RAID controller is present in a system, the EBDA allocation happens well outside 64K. Therefore LSI IT/IR BIOS is changed to support EBDA allocations greater than 64K.

(SCGCQ00718400 - Port of SCGCQ00698202)

Enhancement 2/3

- HEADLINE:** Configurable Product Name String in the Expansion ROM Headers
- NEW FUNCTIONALITY:** LSI IT/IR OptionROM needs to provide an optional "Product Name String" in expansion ROM headers to system BIOS for supporting boot. The string is populated with device handle and drive's inquiry information by default. However customers want to have different expansion ROM header format like enclosure slot based, SAS address based etc. In this version of the OptionROM the information populated in the "Product Name String" is made as a manufacturing time configurable option. The information provided is limited by the number of descriptive characters, 32, that may be shown in the Boot Order display of system BIOS. The choices allow for five (5) differing presentations, selected by configuring the configuration pages during manufacturing.

(Note that because many System BIOS' will show more than 32 characters, and that others truncate the presentation at fewer than 32, the most unique data is presented first.)

With zero (0) as the default, those selections are:

0. PCIbus/DeviceFunction, Handle, LUN, Vendor, ProductID
1. Enclosure, EnclosureSlot, ProductID, Vendor (compact)
2. Enclosure, EnclosureSlot, WWIDLow, Vendor, ProductID
3. PCIslot, Enclosure, EnclosureSlot, Vendor, ProductID (full path)
4. PCIslot, Enclosure, PhyNumber, Vendor, ProductID

Below, is an example of the data presented for each choice:

0. #0200 ID0A LUN0 VENDORX PROD35040UCT64
1. En01:Sl05:PROD35040UCT641 VENDORX
2. E01S05-24742C99 VENDORX PROD35040UCT64
3. P:02 E:01 S:05 VENDORX PROD35040UCT64
4. Sl02 En01 Phy07 VENDORX PROD35040UCT64

The configuration settings referred above is detailed in the Fusion MPT specification. MPI BIOS Page 1 BiosOptions is a 32 bit field, and the bits affected are 13-11 for a maximum range of 0-7 where only 0-4 are defined.

The XML document for an adapters NVDATA would probably have an entry like this:

```
<BIOSPage1>
<!--Enable Selected Expansion Header -->
<BiosOptions>00001800</BiosOptions>           selects option #3
</BIOSPage1>
```

(SCGCQ00718402 - Port of SCGCQ00694336)

Enhancement 3/3

- HEADLINE:** Support configurable timeout for Start Stop Unit Command.
- NEW FUNCTIONALITY:** The IT/IR legacy OptionROM was using 10 second timeout for Start Stop Unit Command. This timeout was not sufficient for certain hard disks. OptionROM versions Phase13 and prior had the timeout of 5 minutes but there were issues with such a large timeout with faulty drives (prolonged boot time). This version of the OptionROM is modified to allow users to configure the start stop unit command timeout through BIOS CU. The default timeout value is 45 seconds and the maximum value is 255 seconds. Values of 1 through 9 are not recommended.