

Phase14 GCA Release Version 14.00.00.00 - SAS2FLASH_Phase14.0 (SCGCQ00301856)

(SCGCQ00301856) - Phase14 GCA Release Version 14.00.00.00 - SAS2FLASH Phase14.0 (SCGCQ00296626) - Phase14 Beta Release Version 13.250.07.00 - SAS2FLASH Phase14.0 (SCGCQ00294400) - Phase14 Beta Release Version 13.250.06.00 - SAS2FLASH Phase14.0 (SCGCQ00289849) - Phase14 Beta Release Version 13.250.05.00 - SAS2FLASH Phase14.0 (SCGCQ00285859) - Phase14 Alpha Release Version 13.250.04.00 - SAS2FLASH Phase14.0 (SCGCQ00282612) - Phase14 Alpha Release Version 13.250.03.00 - SAS2FLASH Phase14.0 (SCGCQ00265746) - Phase14 Alpha Release Version 13.250.02.00 - SAS2FLASH Phase14.0 (SCGCQ00257472) - Phase14 Pre-Alpha Release Version 13.250.01.00 -

SAS2FLASH Phase14.0



Phase14 GCA Release Version 14.00.00.00 - SAS2FLASH_Phase14.0 (SCGCQ00301856)

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



Phase14 Beta Release Version 13.250.07.00 - SAS2FLASH_Phase14.0 (SCGCQ00296626)

Change Summary (Defects=4)

SCGCQ00295070 (DFCT) - SAS2Flash:Uploading of NVDATA using unvdata command is failing in Solaris SPARC

SCGCQ00295116 (DFCT) - SAS2Flash: Commands which are supported only with '-o' is listed under 'sas2flash -h'

SCGCQ00295142 (DFCT) - SAS2Flash: Exception observed while Running debug command with '-h'(sas2flash -debug -h)

SCGCQ00295399 (DFCT) - SAS2Flash: Correcting Help Issue



Phase14 Beta Release Version 13.250.07.00 - SAS2FLASH_Phase14.0 (SCGCQ00296626)

Total Defects Resolved (4)

(SCGCQ00295070) Defect 1/4

HEADLINE: SAS2Flash:Uploading of NVDATA using unvdata command is failing in Solaris SPARC

DESC OF CHANGE: NVDATA Image size received from GetFirmwareExtendedImage() function was in Big-Endian format.

Added code to get the correct Image size for all platforms.

TO REPRODUCE: Steps:

1.Connect Mustang controller with sun_sparc T2000(Solaris).
2.Run following command "sas2flash -o -unvdata unvdata.img"

3. Observe Uploading of NVDATA failed

ISSUE DESC: While trying to Uploading of NVDATA using unvdata command(sas2flash -o -unvdata unvdata.img) is failing

in solaris(sparc)

(SCGCQ00295116) Defect 2/4

HEADLINE:

SAS2Flash: Commands which are supported only with '-o' is listed under 'sas2flash -h'

DESC OF CHANGE:

This issue was caused by typo with the command. In the help command array third field indicates whether the help for the command should be displayed in Advanced mode or not. In this case three commands were advanced mode commands however third field in help array indicated them as normal commands.

Corrected third field in help array for three commands to print the help in advance mode.

TO REPRODUCE:

steps:

Connect mustang(bo) controller with sparc(solaris) system
 Issue help command: "sas2flash -h " ,observe it listout the listsasadd,testssid,umpb commands

3.Try listsasadd,testssid,umpb commands these commands without '-o' it will not work

4. Then try same commands with '-o' it will work

ISSUE DESC:

Commands which are supported only with '-o' is listed under 'sas2flash -h'.

For eg: listsasadd command listed under sas2flash -h but this command work only with '-o'(sas2flash -o

-listsasadd).It will not work without '-o'

same behaviour for following command:
1.listsasadd(sas2flash -o -listsasadd)
2.testssid (sas2flash -o -testssid)
3.umpb (sas2flash -o -umpb)

(SCGCQ00295142) Defect 3/4

HEADLINE:

SAS2Flash: Exception observed while Running debug command with '-h'(sas2flash -debug -h)

DESC OF CHANGE:

The -debug command sets the Flag to DEBUG_OUTPUT to prints the debug messages. However after setting the flags it do not set the status and IOCloginfo fields to success. In this case this value is set to

other than zero and hence application prints the error message.

TO REPRODUCE:

Added code to set the status and loginfo variables to success value. Steps:

1.Connect mustang(bo) controller with sparc(solaris) system 2.Issue debug command with '-h' :"sas2flash -debug -h "

3.Observe the Exception(Due to Exception Command not Executed. IOCStatus=0x1, IOCLogInfo=0x0)

ISSUE DESC: Exception(Due to Exception Command not Executed. IOCStatus=0x1, IOCLogInfo=0x0) observed while Running debug command with '-h'(sas2flash -debug -h).

This issue is seen in DOS platform too.

(SCGCQ00295399) Defect 4/4

HEADLINE: SAS2Flash: Correcting Help Issue

DESC OF CHANGE: Added code to print the help for Advance mode and -method command.

Commented out the code which was printing -verbose command help.

TO REPRODUCE: 1. Execute sas2flash -h/?/help

ISSUE DESC: This would be used to fix following issues,

Help for non existent command
 No help for certain commands



Phase14 Beta Release Version 13.250.06.00 - SAS2FLASH_Phase14.0 (SCGCQ00294400)

Change Summary (Defects=3)

SCGCQ00286651 (DFCT) - Ph14 SAS2Flash: Flashing of UEFI BIOS fails with a segmentation fault in Free BSD 9.0

SCGCQ00288692 (DFCT) - SAS2Flash: In Windows 2008 32 bit, on flashing a wrong firmware, SAS2Flash is asked to close forcefully.

SCGCQ00290502 (DFCT) - Sas2flash: System hangs on executing Sas2flash Advanced help



Phase14 Beta Release Version 13.250.06.00 - SAS2FLASH_Phase14.0 (SCGCQ00294400)

Total Defects Resolved (3)

(SCGCQ00286651) Defect 1/3

HEADLINE: Ph14 SAS2Flash: Flashing of UEFI BIOS fails with a segmentation fault in Free BSD 9.0

DESC OF CHANGE: Fixed parsing of BIOS image during a BIOS download/upgrade, to use the image size of BIOS image and

check if offset is always less than the total size of image and if so, exist from looping through and looking for

another Extended Application image header and signature.

TO REPRODUCE: 1. Flash the controller with a valid firmware.

2. Issue the following command to flash the UEFI BIOS:

sas2flash -o -b x64sas2.rom

Expected Behavior: Flashing of the UEFI BIOS must be successful with no errors. Actual Behavior: Flashing of the Phase 14 Alpha UEFI BIOS fails with a segmentation fault.

ISSUE DESC: While trying to flash the latest Ph14 Alpha UEFI BSD rom onto a controller in FreeBSD 9.0, the flashing fails

with a segmentation fault.

This issue is observed only in FreeBSD 9.0 OS.

Also the flashing of Phase 13 GCA build of UEFI gets flashed properly with no errors.

(SCGCQ00288692) Defect 2/3

HEADLINE: SAS2Flash: In Windows 2008 32 bit, on flashing a wrong firmware, SAS2Flash is asked to close forcefully. There is FLAG CHIP_REVISION_RANGE_INVALID that was assigned the incorrect value as 0x16 this **DESC OF CHANGE:**

value should be 0x10. Corrected the value to 0x10.

TO REPRODUCE: 1. Flash an invalid firmware [that is a firmware with invalid NVDATA image].

Expected Behavior: SAS2flash must exit gracefully, informing the user that 'Invalid NVDATA signature in

firmware image file...

Actual Behavior: A popup appears asking the user is to close SAS2Flash.

ISSUE DESC: On trying to flash a wrong firmware which has an NVDATA mismatch onto a card, the error message

'Invalid NVDATA signature in firmware image file...' appears and the user is asked to close SAS2Flash.

(SCGCQ00290502) Defect 3/3

HEADLINE: Sas2flash: System hangs on executing Sas2flash Advanced help

DESC OF CHANGE: This issue was caused by the misplaced help string. Corrected the place of the Help String in Help Array.

1) Connect any latest bios and firmware flashed Sas2 controller to the setup TO REPRODUCE:

2) Boot to DOŚ and execute the command Sas2flash -o -help/-h/-? using Sas2flash version 13.250.05.00

3) Sas2flash help will be displayed (screenshot2 attached)and continue to execute the command 4) At the sixth step of execution, an error like "Unrecoverable internal exception, program terminated"

(screenshot1 attached) will be displayed and the System hangs

5) After System hang, even not able to restart the setup using Ctrl+Alt+Delete from keyboard, only need to

do manual reset from hardware.

Actual behaviour:

System hangs with error message during the execution of command Sas2flash -o -help/-h/-?

Expected behaviour:

Usage of all commands should be displayed without any hang in Sas2flash Advanced help/Normal help

Configuration: OS: DOS

Controller: Any Sas2 controller with latest bios and firmware flashed

Sas2flash: Version 13.250.05.00

ISSUE DESC: While Sas2flash -o -help/-h/-? execution is in progress, System hangs (even not able to restart using

Ctrl+Alt+Delete from keyboard, need to do manual hardware reset)

1) Issue not seen while executing normal help command (Sas2flash -help/-h/-?)

2) Issue not seen with Alpha build (Sas2flash version: 13.250.04.00)



Phase14 Beta Release Version 13.250.05.00 - SAS2FLASH_Phase14.0 (SCGCQ00289849)

Change Summary (Defects=3)

SCGCQ00285363 (DFCT) - SAS2Flash: On giving reset command to blank board, causes the command to hang

SCGCQ00286836 (DFCT) - Sas2flash: Usage of command "-h" is not displayed in either Sas2flash advanced help or Sas2flash normal help

SCGCQ00289590 (CSET) - SAS2 Flash: -testfw command is SUCCESSFULL even on a blank card in both DOS & UEFI



Phase14 Beta Release Version 13.250.05.00 - SAS2FLASH_Phase14.0 (SCGCQ00289849)

Total Defects Resolved (3)

(SCGCQ00285363) Defect 1/3

HEADLINE: SAS2Flash: On giving reset command to blank board, causes the command to hang

DESC OF CHANGE: Reset command used to reset the controller and it used to wait for it to become operational. In this case

controller do not have a valid firmware to become operational and then it used to wait. This delay seemed

like a machine hang.

Added check to verify if the controller is already in Reset state i.e. it does not have firmware to become

operational then it would not wait for controller to become operational. This would resolve the hang state.

TO REPRODUCE: Erase the controller completely using the following command:

sas2flash -o -e 7

Issue a reset command to the controller:

sas2flash -o -reset

ISSUE DESC: On giving the reset command to a completely erased controller, the reset command hangs. Red LED glows

in the controller, and it hangs in a reset state until the server is reboot.

(SCGCQ00286836) Defect 2/3

HEADLINE: Sas2flash: Usage of command "-h" is not displayed in either Sas2flash advanced help or Sas2flash normal

help

DESC OF CHANGE: Added usage for help command for -h, -help and -? keywords

TO REPRODUCE: 1) Connect any sas2 controller to the setup

3) Using sas2flash provide sas2flash -o -help or sas2flash -h/-?

4) Observe the issue that usage of command "-h" will not be displayed in either Sas2flash advanced/normal

ISSUE DESC: On providing "Sas2flash -o -help" or "Sas2flash -h/-?", usage of "-h" command is not displayed.

(SCGCQ00289590 - Port of SCGCQ00288395)

Defect 3/3

HEADLINE: SAS2 Flash: -testfw command is SUCCESSFULL even on a blank card in both DOS & UEFI

DESC OF CHANGE: Added check to handle firmware upload failure. This would ensure that if board do not have then handle

firmware download would fail and this check would eventually report the failure appropriately.

TO REPRODUCE: Complete Erase the card with -e 1, 3, 7, reboot the system Run sas2falsh -o -testfw 00.250.34.00 on a blank HAB in DOS or EFI Shell

Command completes as firmware version check SUCCESSFUL!

While trying to run test firmware command (sas2falsh -o -testfw 0.0.0.0) without firmware on controller, it

ISSUE DESC: shows firmware version check SUCCESSFUL! in UFI-Shell & DOS.

Actual Result

Firmware check version SUCCESSFULL! & Finished processing commands successfully

Expected Result:

It should show "Firmware Version check FAILED"



Phase14 Alpha Release Version 13.250.04.00 - SAS2FLASH_Phase14.0 (SCGCQ00285859)

Change Summary (Defects=1)

SCGCQ00284569 (DFCT) - SAS2FLASH does not print IOCStatus/LogInfo in all cases where the FW returned a failure to a MPI request message.



Phase14 Alpha Release Version 13.250.04.00 - SAS2FLASH_Phase14.0 (SCGCQ00285859)

Total Defects Resolved (1)

(SCGCQ00284569)

HEADLINE: SAS2FLASH does not print IOCStatus/LogInfo in all cases where the FW returned a failure to a MPI request

message.

DESC OF CHANGE: CfgiFlashEnable

TO REPRODUCE: Run SAS2FLASH commands in a scenario when Firmware is expected to return a failure IOCStatus and

notice that SAS2FLASH does not print the IOCstatus/IOCLogInfo information in all failure cases.

ISSUE DESC:

When SAS2FLASH fails a supported command, it is supposed to print helpful debug information such as FW returned IOCStatus and IOCLogInfo. In some cases, when the subroutine for a specific MPI request (config page read or tool box clean) internally checks for IOCStatus and if failure, returns FALSE status to

command processor. The command processor displays IOCStatus and LogInfo only when command

routines return TRUE and then check if IOCstatus is not Success.



Phase14 Alpha Release Version 13.250.03.00 - SAS2FLASH_Phase14.0 (SCGCQ00282612)

Change Summary (Defects=3 Enhancements=2)

SCGCQ00268336 (CSET) - SAS2Flash: Usage of command "-Debug" is not displayed in either advanced help or normal help

SCGCQ00278615 (CSET) - SAS2Flash -addhi command with % creates unwanted blank lines in output SCGCQ00278739 (CSET) - SAS2Flash - Concatenating multiple images SAS2Flash reports back the incorrect NVData Product ID field

SCGCQ00242060 (ENHREQ) - SAS2Flash testing with Win8 Beta/RC

SCGCQ00242700 (ENHREQ) - FAT test SAS2Flash with FreeBSD v9



Phase14 Alpha Release Version 13.250.03.00 - SAS2FLASH_Phase14.0 (SCGCQ00282612)

Total Defects Resolved (3)

(SCGCQ00268336 - Port of SCGCQ00266614)

Defect 1/3

HEADLINE: SAS2Flash: Usage of command "-Debug" is not displayed in either advanced help or normal help

DESC OF CHANGE: Added the usage of command "-Debug" in help. **TO REPRODUCE:** 1)Execute sas2flash -o -help or sas2flash -h/-?

2) Observe the issue that, "-Debug" command usage will not be shown in advanced/normal help

ISSUE DESC: On providing "Sas2flash -o -help" or "Sas2flash -h/-?", usage of "-debug" command is not displayed.

(SCGCQ00278615 - Port of SCGCQ00268372)

Defect 2/3

HEADLINE: SAS2Flash -addhi command with % creates unwanted blank lines in output **DESC OF CHANGE:** Added format specifier in Aprint statement to take care of special ASCII characters.

TO REPRODUCE: step 1:sas2flash.efi -c 0 -o -sasaddhi 500605b

step 2:It will ask remaining 9digit sasaddress in command prompt, should enter percent % with 8 digits

[totally 9 digits]

or

step 1A:sas2flash.efi -c 0 -o -sasaddhi 500605% then remaining 9 digit

Expected Result : The command should not complete and display the proper error message

Actual Result: The screen starts to scroll continuously and create lots of unwanted blank lines

ISSUE DESC: SAS2Flash addhi command with % creates unwanted blank lines

While trying to run the command sas2flash.efi $-c \ 0$ -o -sasaddhi 500605b it prompts for enter 9digit sasaddress, when entered % with 8 digits [totally 9 digits], the screen starts to scroll continuously

(SCGCQ00278739 - Port of SCGCQ00277517)

Defect 3/3

HEADLINE: SAS2Flash - Concatenating multiple images SAS2Flash reports back the incorrect NVData Product ID field

DESC OF CHANGE: Reinitialized the NVDATA image counter to zero. To ensure reading all images from starting.

TO REPRODUCE: 1. Flash the controller with concatenated NVDATA images

2. List the controller and verify the PRODUCT ID is incorrect.

ISSUE DESC: NVDATA Product ID is getting printed incorrectly with multiple concatenated NVDATA images.



Phase14 Alpha Release Version 13.250.03.00 - SAS2FLASH_Phase14.0 (SCGCQ00282612)

Total Enhancements Implemented (2)

(SCGCQ00242060) Enhancement 1/2

HEADLINE: SAS2Flash testing with Win8 Beta/RC

NEW FUNCTIONALITY: Executed All FAT Test Cases. All Test cases executed successfully.

(SCGCQ00242700) Enhancement 2/2

HEADLINE: FAT test SAS2Flash with FreeBSD v9

NEW FUNCTIONALITY: Executed All FAT Test Cases. All Test cases executed successfully.



Phase14 Alpha Release Version 13.250.02.00 - SAS2FLASH_Phase14.0 (SCGCQ00265746)

Change Summary (Defects=1 Enhancements=10)

SCGCQ00262589 (CSET) - Sas2 Flash won't flash firmware on erased Card on DOS platform SCGCQ00230137 (ENHREQ) - SAS2FLASH: Print Firmware and NVDATA versions of the firmware image that is updated

SCGCQ00234907 (ENHREQ) - Add a command for upload Mini MPB region or Manufacturing block from the flash to a file.

SCGCQ00245489 (ENHREQ) - SAS2Flash - Display FW type (IT or IR) and version so customers don't have to reboot and enter the BIOSCU

SCGCQ00249856 (ENHREQ) - SAS2Flash: Same error message appears 4 times when trying to download firmware on Liberator A0.

SCGCQ00242695 (ENHREQ) - FAT test SAS2FLASH with SLES 11 SP2

SCGCQ00242697 (ENHREQ) - FAT test SAS2Flash with VMware ESXi5.0 U1

SCGCQ00240577 (CSET) - SAS2FLASH: Update functionality of "-force" option to always erase persistent config pages on a firmware download operation

SCGCQ00249642 (CSET) - SAS2Flash incorrectly displays an ERROR when parsing multiple NVData images looking for a chip revision match

SCGCQ00257590 (CSET) - Implement full transport using SGL that supports MPI Chain Elements SCGCQ00261918 (CSET) - SAS2FLASH DOS/UEFI: Diagnostic Reset require additional "Quiet Period" after first read of Diag Register



Phase14 Alpha Release Version 13.250.02.00 - SAS2FLASH_Phase14.0 (SCGCQ00265746)

Total Defects Resolved (1)

(SCGCQ00262589 - Port of SCGCQ00261586)

Defect 1/1

Sas2 Flash won't flash firmware on erased Card on DOS platform **DESC OF CHANGE:** Added code to indicate end of Buffer, end of list for Simple SGL.

TO REPRODUCE: Erase card with: sas2flsh -o -e 7

Flash card with: sas2flsh -o -f <FirmwareFile>

Observe results.

This is only a problem with flashing an erased card. When flashing a completely erased card with sas2flsh fails with "Failed to validate MfgPage2!" error. **ISSUE DESC:**



Phase14 Alpha Release Version 13.250.02.00 - SAS2FLASH_Phase14.0 (SCGCQ00265746)

Total Enhancements Implemented (10)

(SCGCQ00230137) Enhancement 1/10

HEADLINE: SAS2FLASH: Print Firmware and NVDATA versions of the firmware image that is updated

NEW FUNCTIONALITY: Added code to print Firmware and NVDATA version while upgrade process.

It would now print the Firmware and NVDATA version from the file used for upgrade.

(SCGCQ00234907) Enhancement 2/10

HEADLINE: Add a command for upload Mini MPB region or Manufacturing block from the flash to a file.

NEW FUNCTIONALITY: Added new command -umpb <filename> to upload Manufacturing Parameter Block [MPB] to the file.

The respective code implementation would read the MPB region from the flash and would store it in

specified file.

(SCGCQ00245489) Enhancement 3/10

HEADLINE: SAS2Flash - Display FW type (IT or IR) and version so customers don't have to reboot and enter the

BIOSCU

NEW FUNCTIONALITY: Updated output of -list command to SAS2FLASH to include Firmware Product ID type strings "IT" or "IR" to

quickly identify Firmware type that is running on the controller.

(SCGCQ00249856) Enhancement 4/10

HEADLINE: SAS2Flash: Same error message appears 4 times when trying to download firmware on Liberator A0.

NEW FUNCTIONALITY: Added code to consolidate error messages and to remove duplicate mismatched ranges from being printed.

It would now print single error message along with all unique mismatched ranges.

(SCGCQ00242695) Enhancement 5/10

HEADLINE: FAT test SAS2FLASH with SLES 11 SP2

NEW FUNCTIONALITY: Executed All FAT Test Cases. All Test cases executed successfully.

(SCGCQ00242697) Enhancement 6/10

HEADLINE: FAT test SAS2Flash with VMware ESXi5.0 U1

NEW FUNCTIONALITY: Executed All FAT Test Cases. All Test cases executed successfully.

(SCGCQ00240577 - Port of SCGCQ00235405) Enhancement 7/10

HEADLINE: SAS2FLASH: Update functionality of "-force" option to always erase persistent config pages on a firmware

download operation

NEW FUNCTIONALITY: Implemented changes to the hidden force option to always erase persistent config pages irrespective of the

NVDATA version. The check for NVDATA downgrade is removed if -force option is set.

(SCGCQ00249642 - Port of SCGCQ00242752) Enhancement 8/10

HEADLINE: SAS2Flash incorrectly displays an ERROR when parsing multiple NVData images looking for a chip revision

match

NEW FUNCTIONALITY: Added code to copy each invalid NVDATA error message and displaying them together at the end if none of

the NVDATA images matches the controller.



Phase14 Alpha Release Version 13.250.02.00 - SAS2FLASH_Phase14.0 (SCGCQ00265746)

(SCGCQ00257590 - Port of SCGCQ00242132)

Enhancement 9/10

HEADLINE:

Implement full transport using SGL that supports MPI Chain Elements

NEW FUNCTIONALITY:

SAS2FLASH, as of today, only supports single Segment of SGE's, so it is restricted to number of SGE's that

can be allocated based on the max MPI request frame size.

The support for chained SGL is added to the application. Wherever there is case where SGE's required are greater than max MPI request frame size then it would create a chained SGL joined all SGE's together. This

making it look like a one big chained element.

Then this chained SGL would be attached to request frame for further processing.

(SCGCQ00261918 - Port of SCGCQ00261875)

Enhancement 10/10

HEADLINE: NEW FUNCTIONALITY: SAS2FLASH DOS/UEFI: Diagnostic Reset require additional "Quiet Period" after first read of Diag Register Added additional delay of 225ms before first read of diagnostic register is made after reset bit is set.



Phase14 Pre-Alpha Release Version 13.250.01.00 - SAS2FLASH_Phase14.0 (SCGCQ00257472)

Change Summary (Defects=1)

SCGCQ00254234 (DFCT) - SAS2Flash incorrectly claims the flash ROM was erased when FW throws a LogInfo



Phase14 Pre-Alpha Release Version 13.250.01.00 - SAS2FLASH_Phase14.0 (SCGCQ00257472)

Total Defects Resolved (1)

(SCGCQ00254234)

HEADLINE: SAS2Flash incorrectly claims the flash ROM was erased when FW throws a LogInfo

For EFI platform added an extra check to check the IOC Status along with the status of command execution.

TO REPRODUCE: In the process of debugging it, we discovered the SAS2Flash doesn't correctly report the failure to erase that flash ROM. Here is the sas2flash output showing that it claimed success... but also showing the loginfo that the erasure failed.