

ReleaseOrder ID:

DCSG01954178

Headline:

GCA Release: SAS4 MPI3 Linux Driver Version - 8.14.1.0.0-1

Release Version:

8.14.1.0.0-1

UCM Project:

MPI3X_LINUX_DRIVER_GIT

Sub UCM Project:

MPI3X_LINUX_DRIVER_GIT_8.14

UCM Stream:

Release Type:

GCA

State:

Released

Release Baseline:

Release-MPI3X_LINUX_DRIVER_GIT_8.14-8.14.1.0.0-1-2025.07.29.15.37.35

Release Date:

2025-07-29 15:37:28.000000

Date Generated:

Jul 31, 2025

GCA Release Advisory

- Release Advisory From ReleaseOrder DCSG01954178 (GCA Release: SAS4 MPI3 Linux Driver Version - 8.14.1.0.0-1):

Release History

- [DCSG01951868 - ReleaseCandidate Release: SAS4 MPI3 Linux Driver Version - 8.14.0.7.0-1](#)
- [DCSG01948048 - ReleaseCandidate Release: SAS4 MPI3 Linux Driver Version - 8.14.0.6.0-1](#)
- [DCSG01944314 - Beta Release: SAS4 MPI3 Linux Driver Version - 8.14.0.5.0-2](#)
- [DCSG01936906 - Beta Release: SAS4 MPI3 Linux Driver Version - 8.14.0.5.0-1](#)
- [DCSG01915587 - Beta Release: SAS4 MPI3 Linux Driver Version - 8.14.0.4.0-1](#)
- [DCSG01876609 - Alpha Release: SAS4 MPI3 Linux Driver Version - 8.14.0.3.0-1](#)
- [DCSG01874245 - Pre-Alpha-2 Release: SAS4 MPI3 Linux Driver Version - 8.14.0.2.0-1](#)
- [DCSG01871384 - Pre-Alpha Release: SAS4 MPI3 Linux Driver Version - 8.14.0.1.0-1](#)
- [DCSG01862088 - Pre-Alpha-1 Release: SAS4 MPI3 Linux Driver Version - 8.14.0.0.0-1](#)

ReleaseOrder ID:

DCSG01951868 [Open In CQWeb](#)

Headline:

ReleaseCandidate Release: SAS4 MPI3 Linux Driver Version - 8.14.0.7.0-1

Release Version:

8.14.0.7.0-1

UCM Project:

MPI3X_LINUX_DRIVER_GIT

Sub UCM Project:

MPI3X_LINUX_DRIVER_GIT_8.14

UCM Stream:

Release Type:

ReleaseCandidate

State:

Released

Release Baseline:

Release-MPI3X_LINUX_DRIVER_GIT_8.14-8.14.0.7.0-1-2025.07.24.09.46.43

Release Date:

2025-07-24 09:46:32.000000

Date Generated:

Jul 31, 2025

Defects Fixed (1):

ID:

DCSG01952178 (Port Of Defect DCSG01925361)

Headline:

Devices lost during enclosure reboot testing

Description Of Change:

The driver will be modified to assume the link speed as 1.5 if it is seen as 0 while it is processing the "Device Added" event, that way the drive will be exposed to the OS with a minimal link speed. When the driver processes further events of link down/up from the firmware, the actual link speed will be updated to the SAS transport layer. The link speed is used for information only in the SAS transport layer, and there is no functional impact of setting the link speed to a low value for a short period of time (A few seconds based on current test behavior).

Issue Description:

When the expanders are reset, the controller firmware sends SAS Topology Status Change events to the drivers to remove the drives and expanders from the driver/OS, followed by "Device Add" events to add the expanders and drivers back.

The driver processes the events in a sequential order; hence, there is a delay between when the event is generated by the firmware and when the event is processed by the driver.

When the Linux driver that supports the SAS transport layer processes a device addition event from the firmware SAS/SATA drives/expanders, it has to update the link speed in the SAS transport layer's port/phy data structure of a parent phy before exposing the device attached.

To identify the link speed, the driver needs to issue either SAS Phy page or SAS expander page requests to the firmware.

So, during the processing of the "Device Add" event, if the firmware identifies that the link is down for some of the drives/expanders, it returns the link speed as 0, and the driver drops the device from further exposing it to the OS through the SAS transport layer.

Steps To Reproduce:

Connect each HBA to one expander (IOM).
Load the driver and observe the number of drives
Reset IOMs in a loop and observe missing drives

ReleaseOrder ID:

DCSG01948048 [Open In CQWeb](#)

Headline:

ReleaseCandidate Release: SAS4 MPI3 Linux Driver Version - 8.14.0.6.0-1

Release Version:

8.14.0.6.0-1

UCM Project:

MPI3X_LINUX_DRIVER_GIT

Sub UCM Project:

MPI3X_LINUX_DRIVER_GIT_8.14

UCM Stream:

Release Type:

ReleaseCandidate

State:

Released

Release Baseline:

Release-MPI3X_LINUX_DRIVER_GIT_8.14-8.14.0.6.0-1-2025.07.17.05.11.48

Release Date:

2025-07-17 05:11:30.000000

Date Generated:

Jul 31, 2025

Defects Fixed (1):

ID:

DCSG01945913

Headline:

RHEL 10 DUD and ISO version shows wrong info

Description Of Change:

Binaries regenerated with the correct version.

Issue Description:

RHEL 10 DUD shows mpi3mr-8.14.0.5.0_el10.0-1.x86_64.iso instead of showing mpi3mr-8.14.0.5.0_el10.0-2.x86_64.iso

Steps To Reproduce:

1.Download the latest RO
2.Locate the RHEL10 DUD and check for the version

ReleaseOrder ID:

DCSG01944314 [Open In CQWeb](#)

Headline:

Beta Release: SAS4 MPI3 Linux Driver Version - 8.14.0.5.0-2

Release Version:

8.14.0.5.0-2

UCM Project:

MPI3X_LINUX_DRIVER_GIT

Sub UCM Project:

MPI3X_LINUX_DRIVER_GIT_8.14

UCM Stream:

Release Type:	Beta
State:	Released
Release Baseline:	Release-MPI3X_LINUX_DRIVER_GIT_8.14-8.14.0.5.0-2-2025.07.09.09.28.06
Release Date:	2025-07-09 09:27:42.000000
Date Generated:	Jul 31, 2025

Defects Fixed (1):

ID:	DCSG01942602
Headline:	Debian OS readme should be updated
Description Of Change:	Corrected the OS Support matrix for Debian,Removed Debian 12.8
Issue Description:	While updating the OS support matrix to include the latest Debian 12.x versions, an incorrect version entry was added.
Steps To Reproduce:	1.Navigate to the OS support matrix 2.Locate the section listing supported Debian versions. 3.Update the list

ReleaseOrder ID:	DCSG01936906 Open In CQWeb
Headline:	Beta Release: SAS4 MPI3 Linux Driver Version - 8.14.0.5.0-1
Release Version:	8.14.0.5.0-1
UCM Project:	MPI3X_LINUX_DRIVER_GIT
Sub UCM Project:	MPI3X_LINUX_DRIVER_GIT_8.14
UCM Stream:	
Release Type:	Beta
State:	Released
Release Baseline:	Release-MPI3X_LINUX_DRIVER_GIT_8.14-8.14.0.5.0-1-2025.06.19.17.16.17
Release Date:	2025-06-19 17:16:00.000000
Date Generated:	Jul 31, 2025

Defects Fixed (1):

ID:	DCSG01923542 (Port Of Defect DCSG01902383)
Headline:	Race Condition Between Config Read Submission and Interrupt Completion Leads to Missed Wakeup
Description Of Change:	The code now sets is_waiting = 0 before calling complete api, ensuring that the wakeup is not skipped for any valid waiting thread.
Issue Description:	A race condition exists between the config read submission thread and the interrupt handler responsible for completing the request. The issue arises when: 1. The config read thread sets is_waiting = 1 and submits the command and waits for its completion. 2. Firmware responds, and the drivers interrupt handler processes the command and calls complete OS API. 3. The waiting thread wakes up before the interrupt handler resets is_waiting = 0, completes, and releases the lock. 4. A new config read thread reuses the command slot and sets is_waiting = 1 for its own request. 5. Meanwhile, the interrupt handler (still completing the previous command) clears the newly set is_waiting, mistaking it for the earlier command. 6. When the firmware response for the second command arrives, the driver sees is_waiting = 0 and does not wake up the second thread. As a result, the second thread completes only after the timeout expires, despite the firmware having responded and the driver having completed its processing. This leads to false timeouts, delayed config reads, and late drive exposure, especially during fast, back-to-back config read scenarios.
Steps To Reproduce:	1. Connect the SAS5116 controller and enable multi-functions. 2. Map drives to the VMs and start them in succession. 3. Verify drive visibility in each VM. 4. Mapped drives take ~10 minutes to appear after VM boot.

Enhancements Implemented (1):

ID:	DCSG01936095
Headline:	Add RHEL 9.6, RHEL 10 and SLES16 SP7 OS support
Description Of Change:	Added RHEL 9.6, RHEL 10, and SLES16 SP7 OS support

ReleaseOrder ID:	DCSG01915587 Open In CQWeb
Headline:	Beta Release: SAS4 MPI3 Linux Driver Version - 8.14.0.4.0-1
Release Version:	8.14.0.4.0-1
UCM Project:	MPI3X_LINUX_DRIVER_GIT
Sub UCM Project:	MPI3X_LINUX_DRIVER_GIT_8.14
UCM Stream:	
Release Type:	Beta
State:	Released
Release Baseline:	Release-MPI3X_LINUX_DRIVER_GIT_8.14-8.14.0.4.0-1-2025.05.06.08.32.19
Release Date:	2025-05-06 08:32:05.000000
Date Generated:	Jul 31, 2025

Enhancements Implemented (1):

ID:	DCSG01908002
Headline:	Debian 12.10 OS Support
Description Of Change:	Added driver support for Debian 12.10 OS for the below kernel. - 6.1.0-32

ReleaseOrder ID:	DCSG01876609 Open In CQWeb
Headline:	Alpha Release: SAS4 MPI3 Linux Driver Version - 8.14.0.3.0-1
Release Version:	8.14.0.3.0-1
UCM Project:	MPI3X_LINUX_DRIVER_GIT
Sub UCM Project:	MPI3X_LINUX_DRIVER_GIT_8.14
UCM Stream:	
Release Type:	Alpha
State:	Released
Release Baseline:	Release-MPI3X_LINUX_DRIVER_GIT_8.14-8.14.0.3.0-1-2025.03.14.17.56.49
Release Date:	2025-03-14 17:56:26.000000
Date Generated:	Jul 31, 2025

Enhancements Implemented (1):

ID:	DCSG01851678
Headline:	Set Diag Save for all Diagnostic Fault cases
Description Of Change:	Updated driver to Set Diag Save for all Diagnostic Fault cases.

ReleaseOrder ID:	DCSG01874245 Open In CQWeb
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Headline:	Pre-Alpha-2 Release: SAS4 MPI3 Linux Driver Version - 8.14.0.2.0-1
Release Version:	8.14.0.2.0-1
UCM Project:	MPI3X_LINUX_DRIVER_GIT
Sub UCM Project:	MPI3X_LINUX_DRIVER_GIT_8.14
UCM Stream:	
Release Type:	Pre-Alpha-2
State:	Released
Release Baseline:	Release-MPI3X_LINUX_DRIVER_GIT_8.14-8.14.0.2.0-1-2025.03.12.17.55.19
Release Date:	2025-03-12 17:55:00.000000
Date Generated:	Jul 31, 2025

Defects Fixed (2):

ID:	DCSG01870342
Headline:	Remove function declaration from header file
Description Of Change:	Removed API declaration from source header file.
Issue Description:	Compilation warning observed on Ubuntu 24.04.2 OS.
Steps To Reproduce:	Compile mpi3mr driver on Ubuntu 24.04.2 OS.

ID:	DCSG01874084 (Port Of Defect DCSG01852013)
Headline:	Add null pointer checks for reply and request queues during memsetting the resources
Description Of Change:	Added null pointer checks for reply and request queues before accessing the reply/request memory during cleanup
Issue Description:	The driver encountered a crash during resource cleanup when the reply and request queues were null due to freed memory. This issue occurred when the creation of reply or request queues failed, and the driver freed the memory first but attempted to mem set the content of the freed memory, leading to a system crash.
Steps To Reproduce:	- Load the driver. - If the driver load fails during request/reply queue creation, the system crashes.

Enhancements Implemented (3):

ID:	DCSG01798398
Headline:	Deliver MPI changes over prior release
Description Of Change:	Update the driver to use MPI API rev 36

ID:	DCSG01820153
Headline:	Capture ERs for parity with MR7 releases
Description Of Change:	Went through ERs, CSETs, and Defects of IT Linux driver from Phase34 and Megaraid 7.32 and reviewed 22 ERs and 3 defects -- Total of 25 activities and concluded 25 activities do not require porting.

ID:	DCSG01874086 (Port Of EnhancementRequest DCSG01823317)
Headline:	Ubuntu 24.04.2 OS Support
Description Of Change:	Added driver support for Ubuntu 24.04.2 OS for the below kernel. - 6.8.0-54

ReleaseOrder ID:	DCSG01871384 Open In CQWeb
Headline:	Pre-Alpha Release: SAS4 MPI3 Linux Driver Version - 8.14.0.1.0-1
Release Version:	8.14.0.1.0-1
UCM Project:	MPI3X_LINUX_DRIVER_GIT
Sub UCM Project:	MPI3X_LINUX_DRIVER_GIT_8.14
UCM Stream:	
Release Type:	Pre-Alpha-1
State:	Released
Release Baseline:	Release-MPI3X_LINUX_DRIVER_GIT_8.14-8.14.0.1.0-1-2025.03.06.20.17.46
Release Date:	2025-03-06 20:17:17.000000
Date Generated:	Jul 31, 2025

Defects Fixed (1):

ID:	DCSG01846724
Headline:	Bug in OS API msleep during Ready Wait Loop Led to Driver Load Fail
Description Of Change:	Replaced msleep with ssleep OS API to prevent premature timeout during the controller's READY state check loop.
Issue Description:	- During firmware initialization or re-initialization, the driver checks the controller state for "READY" every 100 milliseconds, with a maximum wait time of 510 seconds. If the controller doesn't reach the READY state within this time frame, the driver issues a diag fault to the firmware and aborts the load. - In this case, the driver is issuing the diag fault because msleep occasionally takes significantly longer than expected (up to 710 seconds, as seen in the logs, or an unpredictable amount of time), causing the driver to incorrectly trigger the timeout and fail prematurely, even though the controller had already transitioned to the READY state.
Steps To Reproduce:	1. Connect 97xx card along with 16 NVMe drives and boot to Linux OS. 2. Create R0 virtual drives s and start IOs 3. While running IOs , Run IOCTL commands. 4. F000 fault is observed in the Firmware.

ReleaseOrder ID:	DCSG01862088 Open In CQWeb
Headline:	Pre-Alpha-1 Release: SAS4 MPI3 Linux Driver Version - 8.14.0.0.0-1
Release Version:	8.14.0.0.0-1
UCM Project:	MPI3X_LINUX_DRIVER_GIT
Sub UCM Project:	MPI3X_LINUX_DRIVER_GIT_8.14
UCM Stream:	
Release Type:	Pre-Alpha-1
State:	Released
Release Baseline:	Release-MPI3X_LINUX_DRIVER_GIT_8.14-8.14.0.0.0-1-2025.02.13.19.26.46
Release Date:	2025-02-13 19:26:32.000000
Date Generated:	Jul 31, 2025

Defects Fixed (1):

ID:	DCSG01860252 (Port Of Defect DCSG01856513)
Headline:	Driver fails to build in Linux kernel versions lesser than 5.15
Description Of Change:	Updated driver to use appropriate macro to make driver compatible with different kernels.
Issue Description:	The driver was using kernel function which is not available in the kernel versions lesser than 5.15
Steps To Reproduce:	compile driver with fedora 34 OS and observe errors while compiling.

Enhancements Implemented (1):

ID:	DCSG01824579
Headline:	Address SL8 event retrieval from Firmware and driver

Description Of Change: Updated driver to process the LOG Data event and send an event notification to the Library/Apps as soon as the driver receives those events.
