



ReleaseOrder ID: SCGCQ00980882
Headline: GCA Release: SAS2FW_Phase20 - 20.00.06.00 Firmwar
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SAS_CTRL_FW
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Defects Fixed (3):

ID: SCGCQ00941670 (Port Of Defect SCGCQ00915308)

Headline: PL: Initiator/target moved can result in Initiator missing event but no corresponding Target missing event

Description Of Change: There was a check in sending the target missing event that was failing because the location of the initiator/target changed. This check was nuanced to only care about that if the device is only a target.

Issue Description: There is a timing window where an initiator/target on the topology can be moved, and the controller sends a SAS Initiator Device Change for Initiator Missing event, and then a SAS Topology Change for PHY Changed. This is a mismatch in the behavior since both the initiator and target have the same device handle. Both an Initiator Missing and a Target Missing event should be sent.

Steps To Reproduce: Connect the controller in target mode to an initiator/target with a long chain of enclosures between them with dual path between the controller and first enclosure. Also put the initiator/target in dual path to its immediate enclosure. Put many drives in the enclosures.

Run IOs to the drives and initiator/target and from the initiator/target.

Remove one path of the controller to the first enclosure and connect it directly to the initiator/target. The Initiator missing event was sent, but not the Target missing event.

ID: SCGCQ00941673 (Port Of Defect SCGCQ00934337)

Headline: PL: Initiator/Target moved can generate two Target Add Events

Description Of Change: There is a check missing when sending Target Add events up to the host. It does not check if the device had a target remove previously sent. Since the device was no longer missing, the standard checks to prevent this situation were passed.

Issue Description: There is a timing window where an initiator/target on the topology can be moved, and the controller sends a SAS Initiator Device Change for Initiator Missing event, and then a SAS Topology Change for Target Missing. Right before this the device comes back so the target is no longer missing, but the missing events must be sent to properly clean up the initiator side. A SAS Topology Target Add is incorrectly sent before the host sends a SAS IO Unit Control Remove Device operation. Then upon processing the remove another Target Add is sent back up.

Steps To Reproduce: Connect the controller in target mode to an initiator/target with a long chain of enclosures between them with dual path between the controller and first enclosure. Also put the initiator/target in dual path to its immediate enclosure. Put many drives in the enclosures.

Run IOs to the drives and initiator/target and from the initiator/target.

Remove one path of the controller to the first enclosure and connect it directly to the initiator/target. The Initiator missing event was sent, but not the Target missing event.

ID: SCGCQ00954253 (Port Of Defect SCGCQ00904470)

Headline: PL: SAS Device Page 0 Entry Device Present for missing expander after Discovery Complete

Description Of Change: Modified firmware source code such that when an expander is missing from the topology, the Device Present bit in the Flags attribute of SAS Device Page 0 will not be set.

Issue Description: After pulling a cable connected between the HBA and the first expander, there is a small window of time after discovery is complete and before all devices are completely removed in which a customer can read SAS Device Page 0 and all expander entries will still be present. During this window, SAS Device Page 0 entries still show the expander's Device Present bit being set in the Flags attribute, which implies the expander is still present despite being removed.

Steps To Reproduce: Connect a HBA to three cascaded expanders with SAS drives connected to each expander. Disconnect the cable between the HBA and the first expander. Read SAS Device Page 0.