BROADCOM Release Notes: GCA : Release : CtrlFw_GIT_Ph_40.0 - 40.00.00.00 Firmware

ReleaseOrder ID: *DCSG-296145*
Headline: *GCA : Release : CtrlFw_GIT_Ph_40.0 - 40.00.00.00 Firmware*
Release Version: *40.00.00.00*
UCM Project: *CtrlFw_GIT*
Sub UCM Project: *CtrlFw_GIT_Ph_40.0*
Release Type: *GCA*
State: *Released*
Release Baseline: *SIT_CtrlFw_GIT_Ph_40.0_v40.0.00.00*
Release Date: *Oct 29, 2026*
Date Generated: *Nov 11, 2026*

GCA Release Advisory

- **Release Advisory From ReleaseOrder DCSG-296145 (GCA : Release : CtrlFw_GIT_Ph_40.0 - 40.00.00.00 Firmware):**

Release History

- DCSG-286206 - Pre-Alpha-1 Release: CtrlFw_GIT_Ph_40.0 - 39.250.02.00 Firmware
- DCSG-286202 - Alpha Release: CtrlFw_GIT_Ph_40.0 - 39.250.07.00 Firmware
- DCSG-286184 - Alpha Release: CtrlFw_GIT_Ph_40.0 - 39.250.05.00 Firmware
- DCSG-286174 - Alpha Release: CtrlFw_GIT_Ph_40.0 - 39.250.06.00 Firmware
- DCSG-286171 - Pre-Alpha-1 Release: CtrlFw_GIT_Ph_40.0 - 39.250.01.00 Firmware
- DCSG-286167 - Pre-Alpha Release: CtrlFw_GIT_Ph_40.0 - 39.250.04.00 Firmware
- DCSG-284248 - ReleaseCandidate : Release : CtrlFw_GIT_Ph_40.0 - 39.250.11.00 Firmware
- DCSG-266985 - Beta : Release : CtrlFw_GIT_Ph_40.0 - 39.250.10.00 Firmware
- DCSG-263540 - Beta: Release : CtrlFw_GIT_Ph_40.0 - 39.250.09.00 Firmware
- DCSG-222507 - Alpha Release: CtrlFw_GIT_Ph_40.0 - 39.250.08.00 Firmware
- DCSG-194117 - Pre-Alpha-2 Release: CtrlFw_GIT_Ph_40.0 - 39.250.03.00 Firmware

ReleaseOrder ID: *DCSG-286206* Open In Jira
Headline: *Pre-Alpha-1 Release: CtrlFw_GIT_Ph_40.0 - 39.250.02.00 Firmware*
Release Version: *39.250.02.00*
UCM Project:
Sub UCM Project: *CtrlFw_GIT_Ph_40.0*
Release Type: *Pre-Alpha-1*
State: *Released*
Release Baseline: *Release-CtrlFw_GIT_Ph_40.0-39.250.02.00-2026.04.30.06.18.55*
Release Date: *Apr 30, 2026*
Date Generated: *Nov 11, 2026*

Enhancements Implemented (1):

ID: DCSG02052672
Headline: NVMe: DevicePage2.ReadyTimeout
Description Of Change: NVMe device ready time is now reported in the ReadyTimeout field of PCIe Device Page 2. The value reported is the larger of the device's reported ready time limit and the maximum ready time observed by firmware.

Defects Fixed (1):

ID: DCSG02047121
Headline: The drive aborts Read/Write I/Os with sense key 0Bh/4B04h.
Description Of Change: Reverted the combo SerDes firmware to the previous version.
Issue Description: After a WRITE command is sent to the drive, the controller receives an XFER_READY frame from the drive with a CRC error.
As a result, the controller sends a NAK to the drive, followed by DATA frames. This sequence causes the drive to abort the WRITE command with sense key 0Bh/4B04h.
This issue has been identified as a side effect of the latest combo SerDes firmware (0x6d80) and is not observed with the previous firmware version (0x6d00).

ReleaseOrder ID: *DCSG-286202* Open In Jira
Headline: *Alpha Release: CtrlFw_GIT_Ph_40.0 - 39.250.07.00 Firmware*
Release Version: *39.250.07.00*
UCM Project:
Sub UCM Project: *CtrlFw_GIT_Ph_40.0*
Release Type: *Alpha*
State: *Released*
Release Baseline: *Release-CtrlFw_GIT_Ph_40.0-39.250.07.00-2026.07.29.10.29.14*
Release Date: *Jul 29, 2026*
Date Generated: *Nov 11, 2026*

Defects Fixed (1):

ID: DCSG02085426
Headline: ATA Passthrough(12) command intermittently fails when host applications issue an ATA IDENTIFY DEVICE request.
Description Of Change: Fixed the Control field offset for ATA Passthrough(12) commands to use the correct 12-byte CDB layout.
Issue Description: The SATL reads the Control field of ATA Passthrough(12) commands using the ATA Passthrough(16) CDB layout, pointing past the 12-byte CDB.
A non-zero value at that out-of-range byte is misread as the Control field being set, causing firmware to incorrectly fail the command.

ReleaseOrder ID: *DCSG-286184* Open In Jira
Headline: *Alpha Release: CtrlFw_GIT_Ph_40.0 - 39.250.05.00 Firmware*
Release Version: *39.250.05.00*
UCM Project:
Sub UCM Project: *CtrlFw_GIT_Ph_40.0*
Release Type: *Alpha*
State: *Released*
Release Baseline: *Release-CtrlFw_GIT_Ph_40.0-39.250.05.00-2026.07.20.08.40.10*
Release Date: *Jul 20, 2026*
Date Generated: *Nov 11, 2026*

Defects Fixed (1):

ID: DCSG02085426
Headline: ATA Passthrough(12) command intermittently fails when host applications issue an ATA IDENTIFY DEVICE request.
Description Of Change: Fixed the Control field offset for ATA Passthrough(12) commands to use the correct 12-byte CDB layout.
Issue Description: The SATL reads the Control field of ATA Passthrough(12) commands using the ATA Passthrough(16) CDB layout, pointing past the 12-byte CDB.
A non-zero value at that out-of-range byte is misread as the Control field being set, causing firmware to incorrectly fail the command.

ReleaseOrder ID: ***DCSG-286174*** Open In Jira
Headline: ***Alpha Release: CtrlFw_GIT_Ph_40.0 - 39.250.06.00 Firmware***
Release Version: ***39.250.06.00***
UCM Project:
Sub UCM Project: ***CtrlFw_GIT_Ph_40.0***
Release Type: ***Alpha***
State: ***Released***
Release Baseline: ***Release-CtrlFw_GIT_Ph_40.0-39.250.06.00-2026.07.26.23.32.02***
Release Date: ***Jul 26, 2026***
Date Generated: ***Nov 11, 2026***

ReleaseOrder ID: ***DCSG-286171*** Open In Jira
Headline: ***Pre-Alpha-1 Release: CtrlFw_GIT_Ph_40.0 - 39.250.01.00 Firmware***
Release Version: ***39.250.01.00***
UCM Project:
Sub UCM Project: ***CtrlFw_GIT_Ph_40.0***
Release Type: ***Pre-Alpha-1***
State: ***Released***
Release Baseline: ***Release-CtrlFw_GIT_Ph_40.0-39.250.01.00-2026.04.24.01.46.37***
Release Date: ***Apr 24, 2026***
Date Generated: ***Nov 11, 2026***

Enhancements Implemented (2):

ID: DCSG02037378
Headline: [SATA] Postpone returning GOOD status for all immediate translations.
Description Of Change: Change SCSI to SATA translations for all commands with IMMED bit set to 1b such that GOOD status is not sent to the host until after the first translated command has been sent to the device.

ID: DCSG02038532
Headline: [NVMe] Postpone returning GOOD status for all immediate translations.
Description Of Change: Change SCSI to NVMe translations for all commands with IMMED bit set to 1b such that GOOD status is not sent to the host until after the first translated command has been sent to the device.

Defects Fixed (3):

ID: DCSG02043525
Headline: Invalid SEP DeviceHandle filled in Enclosure Page 0 for SEP SSP target device when an expander has SEP SSP target and SSP initiator devices
Description Of Change: As per the new changes, the SEP Device Handle of the SEP SSP device is updated only when the expander's virtual PHYs are configured for SEP SSP devices.
Issue Description: The SEP Device Handle field in Enclosure Page 0 for the SEP SSP target was overwritten with the device handle of the SSP initiator when the expander's first virtual PHY was configured as an SSP initiator and the following virtual PHY was configured as a SEP SSP target.

ID: DCSG02055696
Headline: The controller firmware download reply status was not set to POR required when an SBR change was detected.
Description Of Change: Updated the controller firmware download logic to set the reply status to Power On Reset required when an SBR change is detected during firmware download.
Issue Description: During the code walkthrough, it was identified that the reply status was not being set to POR required upon detection of an SBR change.

ID: DCSG02049342
Headline: Fault 2674 seen while running libzbc suite on SMR drive
Description Of Change: Clear the local SGE cache on completion of Report zone command
Remove sge flag check which is causing out of bound access.
Issue Description: Since SGE cache is not cleared in case of report zone error scenario, PL is accessing stale data leading to the Fault.

ReleaseOrder ID: ***DCSG-286167*** Open In Jira
Headline: ***Pre-Alpha Release: CtrlFw_GIT_Ph_40.0 - 39.250.04.00 Firmware***
Release Version: ***39.250.04.00***
UCM Project:
Sub UCM Project: ***CtrlFw_GIT_Ph_40.0***
Release Type: ***Pre-Alpha***
State: ***Released***
Release Baseline: ***Release-CtrlFw_GIT_Ph_40.0-39.250.04.00-2026.07.09.23.03.30***
Release Date: ***Jul 09, 2026***
Date Generated: ***Nov 11, 2026***

Enhancements Implemented (1):

ID: DCSG02080116
Headline: Firmware downgrade gate
Description Of Change: Added manufacturing page 20 to populate the minimum firmware version that can be downloaded. During Firmware download block and fail the firmware image download with version lower than the version in manufacturing page.

Defects Fixed (5):

ID: DCSG02078815
Headline: Use a precise timeout in DDR training
Description Of Change: This firmware now uses time to determine a timeout condition. The timeout is set to 20 milliseconds.
Issue Description: There is a timeout in the phy evaluation firmware that counts the number of loops to determine timeout. This shows considerable variation. Most of the time it completes in 11 or 12 milliseconds. Sometimes it takes upwards of 20 milliseconds. This code needs to have precise timing characteristics.

ID: DCSG02072000
Headline: DDR Multibit ECC Errors
Description Of Change: A work around was implemented. Signals that are susceptible to glitching in the DDR phy are no longer used. This avoids the ECC errors.
Issue Description: ECC errors can occur in DDR with the right combination of Series 95xx controller chips from certain lots, voltage, temperature, and timing.

ID: DCSG02074104
Headline: DDR Multibit ECC Errors
Description Of Change: This compliments the changes in the DDR library made with DCSG02072000.
Issue Description: ECC errors can occur in DDR with the right combination of Series 95xx controller chips from certain lots, voltage, temperature, and timing.

ID: DCSG02070864
Headline: PL fault E40E observed with Switch attached topology

Description Of Change: Marked the SES device on Switch as missing when the PCIe bar reconfiguration is performed so the IOs are blocked till discovery is run and the device is reinitialized.

Issue Description: During PCIe address reconfiguration the base address is cleared on all PCIe devices and task management is run on all PCIe devices. In case of Switch attached topology, the switch can also have one virtual SES device. IOs might start immediately after the PLI control request to start address reconfiguration is complete before the PCIe discovery could reconfigure the devices.

ID: DCSG02084406

Headline: [SATA] Incorrect Request Sense response for drive in active power condition

Description Of Change: Clear the standby flag when start stop unit command is sent to SATA drive with start operation. Also only send the sense data to indicate drive is in standby when check power mode command completes with response set as standby.

Issue Description: Firmware sets a flag to indicate that the drive is in standby when a SCSI start stop unit command is sent to set the power condition as standby. This flag is not cleared when the start stop unit command is sent with start operation. This leads to incorrect sense response for request sense command.

ReleaseOrder ID: ***DCSG-284248*** Open In Jira
Headline: ***ReleaseCandidate : Release : CtrlFw_GIT_Ph_40.0 - 39.250.11.00 Firmware***
Release Version: ***39.250.11.00***
UCM Project: ***CtrlFw_GIT***
Sub UCM Project: ***CtrlFw_GIT_Ph_40.0***
Release Type: ***ReleaseCandidate***
State: ***Released***
Release Baseline: ***SIT_CtrlFw_GIT_Ph_40.0_v39.250.11.00***
Release Date: ***Oct 14, 2026***
Date Generated: ***Nov 11, 2026***

Defects Fixed (2):

ID: DCSG-276505

Headline: Fix controller crash on enclosure power restore

Description Of Change: The PL discovery mechanism now validates that a discovery reason has a valid timeout requirement before updating the timer. When no timeout is needed, discovery resumes immediately rather than attempting to set a zero timeout, which would cause a fault.

Issue Description: When reconnecting enclosure power after system reboots with degraded volumes, the controller could crash during SAS link restoration if a discovery operation required no delay. The controller would reset, interrupting recovery.

ID: DCSG-249354

Headline: Fix task management fault during LUN enumeration

Description Of Change: Modified task management code to prevent faults when LUN enumeration reaches the maximum value (0xFF). The fix adds bounds checking to ensure task management messages are not sent beyond the valid LUN range, and removes the incorrect fault condition that was triggered at the maximum LUN value.

Issue Description: When connecting certain RBOD enclosures, the system would fault with error 0x6023 during task management LUN enumeration when reaching the maximum LUN address. This prevented proper device discovery and initialization.

ReleaseOrder ID: ***DCSG-266985*** Open In Jira
Headline: ***Beta : Release : CtrlFw_GIT_Ph_40.0 - 39.250.10.00 Firmware***
Release Version: ***39.250.10.00***
UCM Project: ***CtrlFw_GIT***
Sub UCM Project: ***CtrlFw_GIT_Ph_40.0***
Release Type: ***Beta***
State: ***Released***
Release Baseline: ***SIT_CtrlFw_GIT_Ph_40.0_v39.250.10.00***
Release Date: ***Sep 24, 2026***
Date Generated: ***Nov 11, 2026***

Defects Fixed (1):

ID: DCSG-264766 (Port Of Defect DCSG-264729)

Headline: MCTP commands with payload fail when wrong byte count field is set in I2C header

Description Of Change: Added a workaround to ignore the extra 3 bytes in the MCTP command payload.

Issue Description: In a recent fix a check was added to verify the payload length in MCTP header and byte count field in I2C header to avoid buffer overflow while copying the payload to local buffer for processing. OEM BMC was not setting the byte count field in I2C header properly and sending 3 extra bytes in the payload causing MCTP command with payload to fail.

ReleaseOrder ID: ***DCSG-263540*** Open In Jira
Headline: ***Beta: Release : CtrlFw_GIT_Ph_40.0 - 39.250.09.00 Firmware***
Release Version: ***39.250.09.00***
UCM Project: ***CtrlFw_GIT***
Sub UCM Project: ***CtrlFw_GIT_Ph_40.0***
Release Type: ***Beta***
State: ***Released***
Release Baseline: ***SIT_CtrlFw_GIT_Ph_40.0_v39.250.09.00***
Release Date: ***Sep 21, 2026***
Date Generated: ***Nov 11, 2026***

Enhancements Implemented (4):

ID: DCSG-249769

Headline: Added a script to request signing host authorization once per machine

Description Of Change: The build now includes a script that requests, once per machine, the host authorization the signing servers require before an image can be signed.

ID: DCSG-240745

Headline: Sign controller images with the current signing tools

Description Of Change: The build now signs through the current signing tools rather than the retired single-executable one, and names its key list in the new namespace. The trailing symbol data in an image is padded so the recorded size meets the alignment the new tool requires, which leaves the layout unchanged and grows that data by at most seven bytes. The temporary files created while signing use short names, so the paths stay inside the limit the operating system imposes even when the build sits in a deep directory.

ID: DCSG-230445

Headline: Add BP_TYPE GPIO override capability

Description Of Change: Adds manufacturing page 11 flags to override BP_TYPE GPIO behavior. Allows asserting (I2C) or deasserting (SGPIO) the GPIO line, or reading it normally when flags are cleared.

ID: DCSG-261514 (Port Of EnhancementRequest DCSG-240767)
Headline: Provide the second generation signing tools in the build repository
Description Of Change: The build repository now carries both tools the second generation signing flow needs, and its signing client pin advances to the August 2026 build. A submodule setup script is added for working clones.

ReleaseOrder ID: ***DCSG-222507*** Open In Jira
Headline: ***Alpha Release: CtrlFw_GIT_Ph_40.0 - 39.250.08.00 Firmware***
Release Version: ***39.250.08.00***
UCM Project:
Sub UCM Project: ***CtrlFw_GIT_Ph_40.0***
Release Type: ***Alpha***
State: ***Released***
Release Baseline: ***Release-CtrlFw_GIT_Ph_40.0-39.250.08.00-2026.07.31.00.27.56***
Release Date: ***Jul 31, 2026***
Date Generated: ***Nov 11, 2026***

Enhancements Implemented (1):

ID: DCSG02094326
Headline: Add checks to the manufacturing page 20 write that updates the minimum firmware version for firmware downgrade gate
Description Of Change: Before writing the manufacturing page 20 added below checks.
1. Minimum firmware version can not be lower than 39.00.00.00 (0x27000000) since the feature is not supported in earlier version
2. Minimum firmware version can only be increased unless force flag is set.
3. Allow minimum firmware version to be 0 to disable the downgrade gate feature.

Also add the manufacturing page 20 to to MPB region so that the page is not deleted while performing downgrade that deletes the persistent config regions.

ReleaseOrder ID: ***DCSG-194117*** Open In Jira
Headline: ***Pre-Alpha-2 Release: CtrlFw_GIT_Ph_40.0 - 39.250.03.00 Firmware***
Release Version: ***39.250.03.00***
UCM Project:
Sub UCM Project: ***CtrlFw_GIT_Ph_40.0***
Release Type: ***Pre-Alpha-2***
State: ***Released***
Release Baseline: ***Release-CtrlFw_GIT_Ph_40.0-39.250.03.00-2026.05.19.22.46.22***
Release Date: ***May 19, 2026***
Date Generated: ***Nov 11, 2026***

Enhancements Implemented (1):

ID: DCSG02047164
Headline: Add handling of Phy disable flag in PCIe IO Unit Page 1
Description Of Change: Set the protocol mode based on the phy disable flag when PCIe IO Unit page 1 is written, also store the flag in local structure so that it is used when PCIe IO Unit page 0 is read.

Defects Fixed (1):

ID: DCSG02058405
Headline: [SATA SMR] Report Zone data not swapped correctly in some cases
Description Of Change: In case align data read is not possible reduced the chunk size and retry the read swap and write logic.
Issue Description: While swapping the report zone data for SATA SMR drives the SGE's are cached in local buffer. The local buffer has 8 SGEs. In case the number of SGEs required are more than 8 the length is adjusted to be aligned with descriptor size. However if last SGE length is lesser than 64 it might not be possible to align the data.