QD/QS Release Notes Kingston 08.20.xx.00

Product	Firmware Version: 08.20.27.00
Date	November 2017

Contents

Introduction 1
Purpose for This Release 2
Resolved Issues 2
Known Issues 12
Contacting Quantum 13

Introduction

StorNext QD6000, QS1200, and QS2400 firmware is shipped as a bundle from Quantum. When updating to the 08.20.27.00 controller firmware, it is necessary to use SANtricity version 11.30 or later.

Caution: The Kingston 08.20.27.00 controller firmware is for the Pikes Peak controllers in the QD6000, QS1200, and QS2400 systems.

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6-68255-05 Rev G, November 2017

Purpose for This Release

Release 08.20.27.00 is the latest firmware release and is a maintenance release. This release corrects a number of known firmware issues.

Note: Refer to SANtricity Storage Manager 11.30 Upgrade Guide (P/N: 6-68575-01 Rev A) for information about how to upgrade storage management software, controller firmware and NVSRAM, and ESM firmware in your storage array.

Resolved Issues

This section describes the issues that were fixed in the following releases.

- Fixes in Build 8.20.27.00
- Fixes in Build 08.20.24.00
- Fixes in Build 08.20.21.00
- Fixes in Build 08.20.20.00
- Fixes in Build 08.20.18.00
- Fixes in Build 08.20.16.00
- Fixes in Build 08.20.12.00
- Fixes in Build 08.20.11.00
- Fixes in Build 08.20.09.00
- Fixes in Build 08.20.08.00
- Fixes in Build 08.20.05.00
- Fixes in Build 08.10.15.00

Fixes in Build 8.20.27.00

Fixes in this build include:

Issue Description for 08.20.27.00
Controller scrolling confusing message every 30 minutes after SOD complete
Cache disable due to unexpected battery learn cycle during Kingston upgrade
Battery is reporting below 50% charge level due to invalid battery parameters and disabling cache
Media scan has never restarted after reconstruction.
Ancient IO on syncC op while synchronizing unwritten cache data to disk

Fixes in Build 08.20.24.00

Fixes in this build include:

Issue Description for 08.20.24.00
Controller is accessing invalid pointer during iSCSI login.
Assertion failed: fullLen 0xffff, file txnMasterTransaction.cc, line 207
Unresponsive Pikes Peak SAS IOC -- IOC High Priority Queue full
Exception: Data Abort while doing pdvcRemapIOBuf
Drive timeout due to IOC internal deadlock
Assertion failed: login is NULL, file qlfcLMtlInterface.cc, line 1047
Dual controller reboot in sasRemoveExpander
Make Disable VAAI Operations Work from StorageArray
Page fault due to dbm wasn't checking for failed memory allocation
Controller reboot because of Software Watch Dog Time Out.
PI error status not checked if the drive returns a RECOVERED ERROR sense key
Exception while doing "Online Port Diagnostic test " by the customer
Host move between 2 host group result in CmpWr op on UTM volume
During Read Retry of RAID 6 isolation FUA bit should be set.
SY-Kingston hit AIO scsiManagerOpTimerTask after 45 minutes large block, multi-threaded Straight IO
Check volume state in transaction lock for setTPG to avoid transfer of DEAD LUN
Adjustments to Taper values determine from field usage
Expansion tray ID changes after CFW upgrade.
Set thin volume's transfer permission to NO if its underlying RAID volume is dead
LSIP200965365 Change to decrease freuqency of failing marginal batteries for Soyuz; Pikes Peak & Titan; Change to Taper Params
Memory fault while getting iscsi sessions
Exception during ASUP iscsiStateCapture collection in progress
MEL 7c04 A recovery point for an asynchronous mirror group was lost
Page Fault encountered during TDITN disconnect

Issue Description for 08.20.24.00
Recursive reboots (ASSERT) while creating ARVM relationship with very small repository
DDP is reserving more stripe than expected.
Arapaho - (ssmEvent): PANIC: SSM could not report a system event, rebooting because of memory loss.
Asserts hit during Drive FW updates at customer site
Fix memory leak in spmVerifyDatabase and spmDbShow
Overrun of Initiator PORT Objects causes controller panic loop
SOD slow due to bad communication between the two controllers
Assertion failure in cache::CacheManager::cacheConvertCleanToDirtyContinue
Disable Cell Balance in Legacy BBUs
Perform deep learn cycle on spare BBUs installation
Update Qinv Max T a& Min T to new threshold values in order to decrease premature BBU failure Battery
Race condition in clearACA handling results in ACA not getting cleared.
Repeating PANIC: TXN: Dual Master txn condition in setWriteMasterTransaction: Two instances on this controller
PANIC: clearDoorbell: IOCid:1 Fault TaskExit doorBell: x400026b6:, FWVER: 03-00-13-00
Cache Loss due to incorrect assumptions about mismatched firmware levels
SSM: In beginSpinUp(), preincrement the child count to prevent the callback from running

Fixes in Build 08.20.21.00

Fixes in this build include:

Issue Description for 08.20.21.00
Missing last digit on service tag for MD 34xx 36xx 38xx
Ancient IO on Full Thin Volume with SSD Read Cache
Running device reset results in controller restart due to ancient IO (Soyuz & Titan)
ARVM Mirror Failed due to Deltalog L0 active blocks mismatch after DVEs followed by volume ownership
Battery reports half capacity during learn cycle or recovery

Issue Description for 08.20.21.00
PANIC: Out of keyed BSEM structures.
Decrease frequency of OCA on Tahoe and Snowmass
Sudden Cacapity Drop of BBU observed on Snowmass & Tahoe

Fixes in Build 08.20.20.00

Fixes in this build include:

Issue Description for 08.20.20.00
Device processing Router Solicitations failed
Copy-back stuck in an indefinite loop
rescribe multifault fails with reservation conflict write error
Ancient IO due to a task management request in the infiniband driver.
Disk pool stuck in degraded state following 2+ disk failure.
Drive Copy and Drive Power Cycle coincided.
Data inconsistency on DDP volume during Format Unit and controller power cycle
Operation failed, internal error.Encountered the return code 19 When Collecting DQ for ASUP
Brocade Switch with RDP enabled can cause IOC logout all ports and result in HIC failures and PI errors
Auto Contingent Allegiance (ACA) not being cleared by LUN Reset.
CFW should not attempt a second copy/fail if one is already running
Evacuation Failure and reboot leads to Data Corruption, DBM Piece Record Issue and Lockdown
Performance commands issued via CLI causing memory leak
Thin volume's default setting is ‘media scan disabled’
Apparently incorrect length returned by PRIN READ_KEYS
Cobra-D 1/18/6 Check condition results in corruption at the application layer
Timeouts, controller reboots and ARVM errors when SSD cache is enabled.

Fixes in Build 08.20.18.00

Fixes in this build include:

Issue Description for 08.20.18.00
PI error seen from shipped IO
Asynchronous mirror group failed. Remote site had multiple rebooted between Controller A and B
Data overrun and PI guard error when cache configuration changes on an ODX Write Using Block Zero Token
vEOS fails to reach SOD due to Dq writer errors
(driverSched): ASSERT: Assertion failed: false, file qlfcLExch.cc, line 1791
LUN initialization time estimates are significantly inaccurate
Integrate PL and IT Firmware Release 03.00.13.00
Master TXN peering failure after DVE of ARVM mirror. Probable Delta log corruption
Check Conditions b/44 on drive side of controller
ARVM Domi failure after ~2 hrs into CFDF
Bundle the DCM 4.9E release firmware into RAIDCore WembleyDCM.bin
Current Badger leaves loophole for both ESMs to malfunction at the same time
Loss of tray access as both ESM paniced due to invalid drawer state

Fixes in Build 08.20.16.00

Fixes in this build include:

Issue Description for 08.20.16.00
Drop the charge level for a battery cell by 100 mv to fix COV
Controller deadlock experienced during PR WAL flush
PANIC ERROR: Unknown Abort type
Performance drops 90% for 30 seconds when TSCN runs
Data abort exception during iscsi HIC reset
Data Abort after failed DHCP on iSCSI HIC ports
DQ Spamming with SESDCM ESM Factory Version
Pagefault during vdmDrmShowMgr command
Data Abort in strlen

Issue Description for 08.20.16.00
CHAP username in /etc/iscsid.conf must be lower case or CFW rejects it as "CHAP_N contains invalid chars"
RHEL 6.7 IB SY Array iSCSI IPs become unpingable after sometime
WDTO resulting in controller reboots
Battery enters a failed state even when a learn cycle is incomplete for a recoverable condition
PANIC: DSM: In 'buildNewDrive', unrecognized block size (0 bytes)
VIOS CCG defect for rebootReason/rebootReasonExtra update
Diag CCG defect for rebootReason/rebootReasonExtra update
Platforms CCG defect for rebootReason/rebootReasonExtra update
IOI2 CCG defect for rebootReason/rebootReasonExtra update
CAS CCG defect for rebootReason/rebootReasonExtra update
IOS CCG defect for rebootReason/rebootReasonExtra update
VCFG CCG defect for rebootReason/rebootReasonExtra update

Fixes in Build 08.20.12.00

Fixes in this build include:

Issue Description for 08.20.12.00
PANIC: smsInsertIntoTree, on Tahoe during Volume expansion (DVE)
Page Fault in checkForAutoAbort on Pikes Peak with Infiniband HIC
Exception: Page Fault in objVerifyMagicRead
Controller firmware upgrade to 8.10.17 failed
ASSERT: Assertion failed: member < m_NumberMembers, file utlAllocSet.cc, line 217 following firmware upgrade
MARS- KPlus drives overheating in Wembley
Drive replacement for failed ddp drive incorrectly results in 'Disk Pool Automatic Configuration' dialog
Foundations CCG defect for rebootReason/rebootReasonExtra update
Incorrect "online drive firmware download" command listed in CLI documentation (GUI Help and SMcli Guide)
Recovery Guru Procedure for "NON_PREFERRED_PATH" leads customer to place controller offline unnecessarily.

Fixes in Build 08.20.11.00

Fixes in this build include:

Issue Description for 08.20.11.00
Repeated ancient I/O panics, 0 free bufs left.
Repeating Data Abort panic in vdm::CrushPeriodicPersistenceTaskManager::processQueue
iopTrack does not report host IO activity for IB hosts
SAS IOC dump data not available from Tahoe controller health image
Unable to expand disk pool volume to use the whole remaining free capacity.
Improve Snowmass persistent lockdown such that it allows for backup SOD if power is removed
Power-Fan Canister Temperature Issue
After a drive recovery procedure the drive is marked incompatible.
sysRpaChangeDedicated does not map the last page when a multi-byte request ends in the first byte of a page
DCE after DCR on TH results in ASSERT: Assertion failed: isExtentFree(i), file vdmCrushDrive.cc, line 416
RAM should clear its database when SPM clears its database.
Unresponsive drive after power cycle.
Titan controller B doesnt show up in MSW after single swap
CFW does not ignore comment lines when parsing staged NVSRAM for version ID
Shell command showSrpInfo reports incorrect "No of active RDMA channels"

Fixes in Build 08.20.09.00

Fixes in this build include:

Issue Description for 08.20.09.00
PR 675142 - Ignore password reset pushbutton functionality
Update FPGA for all products to disable pushbutton and improve messaging
ODX copy can cause data corruption in Windows 2012 clustered environments with split volume and node ownership
`getSasErrorStatistics_1` command continues to run after symbol command timeout
DA RefTag Errors logged against reads to FlashReadCache volume when handling XCOPY commands

Issue Description for 08.20.09.00
PCI SERR due to bad address during evfShowVol execution
Unexpected MEL 285f events during ESM 0399/039A downloads
SNMP Walk returns truncated data for Service Tag
DDC hung during collection following an AIO event
Unexpected MEL 285f events during ESM 0399/039A downloads
31+ character user label fails AMG creation with "Error 1000 - Could not communicate with the storage array
Daily ASUP collection skips first event in every MAJOR-EVENT-LOG-PARTIAL

Fixes in Build 08.20.08.00

Fixes in this build include:

Issue Description for 08.20.08.00
Multiple iovCopy panics due to NULL source parameter lead to cache recovery panics and lockdown.
Controller panic and lockdown followed by dacstor database corruption
EEL: Could not allocate eelHdr for ioId: 0x35918952
Dual Ancient IO reboot after drive replacement of a drive that is part of a large disk pool
Data Abort / Page Fault triggered during the capture of ionShow,99
State capture starves the FC driver from updating Buffer to Buffer in the fabric switch
Watchdog timeout during ASUP collection in fcmAnalyze
Many Recovered Errors: Defect List Error, Defect List not in requested format
WB_CACHING_FORCIBLY_DISABLED Still reported in Recovery Guru after array is optimal

Fixes in Build 08.20.05.00

Fixes in this build include:

Issue Description for 08.20.05.00
Handle ODFU/PDFU and Thin ICM Conflict
During power on of a WSAS system the fans do not operate correctly
Controller rebooted due to general protection fault in pentiumMsrGet following machine check exception

Issue Description for 08.20.05.00
Can't set iSNS config method as DHCP even when iSNS registration is disabled
Many Recovered Errors: Defect List Error, Defect List not in requested format
SYMagent MSW Linux services should start with systemctl when available
dssPreAllocate is not set to true when creating a new traditional RAID volume
Client timeout for disableSnapshotCollection_1 is too short
Using the "forceTRUE" to change Synchronous Mirroring roles RPC call is not seen in the DQ
Wrong capacity calculation on disk pool automated configuration window
SYMsmInstall.Linux MSW Linux services should start with systemctl when available
OLH MSW Linux services should start with systemctl when available
Scheduled times in "show allSnapGroups schedule" are corrupted after disabling schedule
Comment Section Disappears when SMMonitor is stopped.
Installer localization process changes

Fixes in Build 08.10.15.00

Fixes in this build include:

Issue Description for 08.10.15.00
CFW allowed the conversion of PI to non-PI volumes during the time when the DVE was in progress but failed.
Importing a previously exported Volume in Illinois results in Data Corruption (DPMs)
Controller lockdown due to PI errors after starting IO to a volume in a pool with flash cache and PI
"System Stall" events observed - linked to controller panic/resets with 7.
PI REFTAG off by 1 after compareAndWrite is issued to an ARVM mirror
PI Lockdown 0E+L4 Reftag off by 0x1000 in handling greater than 2MB Read
Ancient IO on sVmotion with FRC and Synchronous Mirroring active
Unreadable sectors due to PI errors after starting IO to a volume in a pool and PI
Controller panic and lockdown followed by dacstor database corruption
Change in the tray ID of an enclosure does not get updated in fdiCapture output until controllers are rebooted

Issue Description for 08.10.15.00
PANIC: Driver Bug <channel:13 Adrs:x04f40100 BugCode:0x00000002> while creating RV
Watchdog Timeout from task "mtlseHealthTask" - error inside mtlDeviceInstance destructor Snowmass
PCI SERR Exception after placing a Snowmass controller offline and pulling it in preparation for CFW ACS test
Modify IO Path Statistics to provide discriminator for iSCSI logins in ITN statistics
(tShell0): PANIC: Already freed memory block at 0x19207078
Assertion driveList->empty() is false in evaluateHotSpare hit on getHotSpareCandidates_1
Assertion failed: ! m_IsMapped after drive replacement
Data underrun with i/o size > 2MB on only Data Assurance (PI) enabled volumes
Cannot decrease warning threshold for thin volume repository
srcAnalyze and tdcmdall reporting negative number for IoId
Update SAS 3 IOC FW with fix for PowerPC 476 instruction TLB cache miss errata workaround
Page Fault and PCI_SERR encountered on manual Thin Volume Expansion
Controller hits ancient I/O after command was aborted by the infiniband low level driver
Most of the IB Statistic fields are incorrectly reported as 0
high_level_volume utility write ahead log integrity fault on CFW upgrades
Consistency Group Snapshot fails if Snapshot Scheduler is used
Discovery session closure is logged as a session termination
Thin vol fails after repository expansion and reboot
6 Drives went in By-Pass mode when I reseat failed drive in Wembley with Soyuz
DDP backed volumes reporting incorrect medium characteristics in VPD page 0xB1
Page Fault on bcopy when gathering DQ trace history
Multiple failed BBU due to OCA (overcharge alarm).
PANIC: mirrorWriteReadMsgAborted: Trying to double free buf 0x4fc3ff0!
Failed DiskPool Volumes Cannot be Recovered
Hardware Watchdog Timeout during straight IO on FC HIC

Issue Description for 08.10.15.00
The hwLinkRate is not being presented uniformly across all PHYs.
Ancient IO on SCSI Compare and Write with T10-PI errors in USM
Unable to create disk pool due to CStripe limit
I2C memory corruption during SBB validation causing panic
Exception: Page Fault errCode: 0 pc: 0x02e680cb _ZN4arvm12BitmapL0Page17isPageInitialized
file mdatBitmapMetadata Assertion failed: (startBit + numBits)
ARVM Initial Sync is taking too long due to small TCP Window Size
Assertion failed: file qlfcLMtlInterface.cc, line 1085
PANIC: CrushOp persist failed!! Rebooting... during Disk Pool creation
SRP driver autoAbort handling should clean up resources owned by the chip
MEL x2047 continually being reported when media scan started during PI being disabled on Disk Pool.
Page Fault on bcopy when gathering DQ trace history
50% Performance Degradation on Tahoe FC Reads with DA enabled vs disabled.
Controller rebooted due to general protection fault in pentiumMsrGet following machine check exception
Storage array profile lists August 1970 as the controller MFG date
When a controller is upgraded from Galena to Illinois, an invalid IPv6 Link Local Address may be reported to the user.
MEL event logging of reboot reason overwritten by reset by alternate/WDTO.
Coverity Issues fix -- IO4

Known Issues

There are no known issues specifically highlighted in the following firmware releases.

- 08.20.27.00
- 08.20.24.00
- 08.20.21.00
- 08.20.20.00

- 08.20.18.00
- 08.20.16.00
- 08.20.12.00
- 08.20.11.00
- 08.20.09.00
- 08.20.08.00
- 08.20.05.00
- 08.10.15.00

Contacting Quantum

More information about this product is available on the Service and Support website at http://www.quantum.com/ServiceandSupport/Index.aspx. The Service and Support Website contains a collection of information, including answers to frequently asked questions (FAQs). You can also access software, firmware, and drivers through this site.

For further assistance, or if training is desired, contact the Quantum Customer Support Center:

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