TS7700 Release Notes - 8.40.0.71 (R4.0 PGA 0)

IBM System Storage TS7700
Release Notes for the TS7760 (3957 VEC)
EC: M13546A - released 06/10/2016

New Function Supported:

   The TS7700 Release 4.0 consists of the following:
1. Server refresh (TS7760 – 3957 model VEC)
   - Power 8 server
   - New I/O drawer
2. Disk cache refresh w/ 4 TB HDDs (3956 models CSA/XSA) with Distributed Raid formatting
3. TS4500 library attachment support
4. 16 Gbit Fibre channel switches for back-end tape
5. Dual port 10 Gbit Ethernet

Hydra	8.40.0.71 (EC M13546A, PN 2726729, 2726730 (DVD 1 & 2))
DB2	10.5.0.5, (Included under EC M13546A) Informational tokens: "DB2 v10.5.0.5", "s141128", "IP23626", and Fix Pack "5"
AIX Base Level	7.1.4.0 (Included under EC M13546A)
AIX Fixpack	7100-04-01-1543+06 (Included under EC M13546A)
P8 Server Firmware	FW810.40 (Included under EC M13546A)
TS4500 (Anaconda) Firmware	1.3.0.1
TS3500 (Anaconda) Firmware	E220
3592 J1A Tape Drive 3592 E05 Tape Drive 3592 E06 Tape Drive 3592 E07 Tape Drive 3592 E08 Tape Drive	D3I0_C90 (Included under EC M13546A) or D3I0_C90 (PN 45E6140) D3I1_F1F (Included under EC M13546A) or D3I1_F1F (PN 95P8734) D3I2_883 (Included under EC M13546A) or D3I2_883 (PN 12X4428) D3I3_A88 (Included under EC M13546A) or D3I3_98B (PN 2726326) D3I4_68E (Included under EC M13546A) or D3I4_520 (PN 2726329)
TSSC	8.1.20 (EC M13614, PN 2726415 (DVD 1))
TSSC Documentation	(EC M13614 PN 2726416)
3956-CCA/CSA Firmware Storage Manager GUI	08.20.18.00 (Included under EC M13546A) 11.20.0G05.0018 (EC M13614 PN2726417)
TKLM	TKLM v2 2.0.0.2, 2.0.0.5
ISKLM	2.6.0.0
Atape	13.0.4.0 (Included under EC M13546A)
GPFS	Release 4.1.1 PTF 7 code (Included under EC M13546A)
OpenLdap	2.4.40
ITDT	9.0.1.20160222 (Included under EC M13546A)
AIX Diagnostics CD	V7.2.0.0 (EC M13546A, PN 2726118)
16Gbit Cisco Switch Firmware	BIOS level 2.1.17 Kickstart software level 6.2(9) System software level 6.2(9)
VTD EXECs	VTD_EXEC.234 Version 1.10 - Online reorg enhancements VTD_EXEC.238 Version 2.03 - q_perf tool fix VTD_EXEC.240 Version 1.04 - WEB/CIM Fix high memory usage VTD_EXEC.252 Version 1.01 - GFPS eFix - page pool errors VTD_EXEC 253 Version 1.01 - Sync Mode Deferred VTD_EXEC.255 Version 1.00 - VEC Wiggins drawer

Platform Requirements Matrix:

Test	Software Level
zOS	V2R1
zTPF	1.1
zVM	6.3
zVSE	5.1, 5.2, 6.1

Test Processor Support Matrix:

Code Name	Processor	Channel Speed
z9 EC	2094	2/4Gbit
z10 EC	2097	2/4/8 Gbit
z196	2817	8Gbit
z114	2818	8Gbit
zEC12	2827	8Gbit
zBC12	2828	8Gbit
z13	2964	8Gbit

Switch and Channel Extender Support Matrix:

Product Vendor and Model	Product levels of microcode supported	TS7700 levels of microcode supported
Brocade Silkworm 48000 IBM 2109-M48 (SAN256B) End of Support: 2/15/16	6.4.2a, 6.4.3	8.40.0.x
Brocade DCX IBM 2499-384 (SAN768B) Nortel 10Gb/sec MOTR card supported End of Support: 11/14/2019	7.4.0a, 7.4.1b	8.40.0.x
Brocade DCX-4S IBM 2499-192 (SAN384B) Nortel 10Gb/sec MOTR card supported End of Support: 11/14/2019	7.4.0a, 7.4.1b	8.40.0.x
Brocade 8510-8 IBM 2499-816 (SAN768B-2) Brocade 8510-4 IBM 2499-416 (SAN384B-2)	7.4.0a, 7.4.1b	8.40.0.x
Brocade 5300 IBM 2498-B80 (SAN80B-4) End of Support 8/21/2019	7.2.1d	8.40.0.x
Brocade 7800 IBM 2498-R06 (SAN06B-R)	7.4.0a, 7.4.1b	8.40.0.x
Brocade 6510 IBM 2498-F48 8, 16 GB/sec (SAN48B-5)	7.4.0a, 7.4.1b	8.40.0.x
Brocade 7840 IBM 2498-R42 (SAN42B-R)	7.4.0a, 7.4.1b	8.40.0.x
Brocade i10K (McData) IBM 2027-256 (SAN256M)	9.9.8	8.40.0.x

Cisco MDS9506 IBM 2062-D04 IBM 2054-E04	6.2.5a, 6.2.5b, 6.2.11c/6.2.11d See note below for FTA	8.40.0.x
Cisco MDS9509 IBM 2062-D07 IBM 2054-E07	6.2.5a, 6.2.5b, 6.2.11c/6.2.11d 12, 24 & 48 port blades only See note below for FTA	8.40.0.x
Cisco MDS9513 IBM 2062-E11 IBM 2054-E11	6.2.5a, 6.2.5b, 6.2.11c/6.2.11d 12, 24 & 48 port blades only See note below for FTA	8.40.0.x
Cisco MDS9222i	6.2.5a, 6.2.5b, 6.2.11c/6.2.11d 12, 24 & 48 port blades only See note below for FTA	8.40.0.x
Cisco MDS9250i	6.2(11c)	8.40.0.x
Cisco MDS9710	6.2.5a, 6.2.5b, 6.2.11c/6.2.11d 12, 24 & 48 port blades only See note below for FTA	8.40.0.x

PROBLEM FIXES:

Problems fixed in this level are described below. There are 1534 tracks picked up in this release; 215 of those occurred or were related to problems in client installations. The 215 are described below with the following designations:

HIPER = High Impact & Pervasive (3 or more occurrences)

High Impact = Loss of access or loss of data (less than 3 occurrences)

Acute = A unrecoverable error with potential loss of data

Serious = A unrecoverable error with potential loss of access to data

Moderate = A system path is not operational and performance might be degraded

Service = A recoverable error, Service Improvements

Improvement = Improvement for better usability

Pervasive: problems with 3 or more occurrences

HIPER: Unexpected cluster restart after monitor script inappropriately stops processes (loss of access)
Dev fix description: correct the logic to stop only correct processes
Pervasive: Yes
Ref: 79156 (also fixed in vtd_exec.238 v 1.01)

HIPER: unexpected cluster restart (loss of access)
Dev fix description: Correct the command syntax in DB2 to avoid reorg hang
Pervasive: Yes
Ref: 79104 / 79469 / 78540 (also fixed in vtd_exec.234 v 1.09 and higher)

HIPER: DB2 container exceeded file space after multiple level updates (loss of access)
Dev fix description: improve code logic used during DB2 upgrades
Pervasive: Yes
77002 (also fixed in vtd_exec.211 v.1.06 and higher)

HIPER: Unexpected cluster restart (loss of access)
Dev fix description: Grid communication manager logic improvement
Pervasive: Yes
Ref: 77068

High Impact: cancel of recall plus pool change caused incomplete copy of volume on cluster
Dev fix description: Improved logic to avoid mismanaging volume
Pervasive: No
Ref: 79450

Serious: Improve recovery for loss of internal AIX process (loss of access)
Dev fix description: Add code to allow better debug of failure
Pervasive: Yes
Ref: 78986

Serious: FICON adapter firmware restarted (loss of access)
Dev fix description: improve FICON firmware logic for error recovery
Pervasive: Yes
Ref: 77261

Serious: Join failed due to special token ownership conflict
Dev fix description: Identify and fix special token ownership before joining
Pervasive: Yes
Ref: 76978

Serious: FICON adapter error caused host job abends
Dev fix description: corrected FICON firmware logic to prevent internal error MDE's 5F0C & 55E)
Pervasive: Yes
Ref: 76522

Serious: Unexpected cluster restart (loss of access)
Dev fix description: add retries to command sequence and add additional logging
Pervasive: Yes
Ref: 76375

Serious: cluster communication stopped (loss of access)
Dev fix description: improve code to recover when process ends unexpectedly
Pervasive: Yes
Ref: 73666

Serious: DB2 file systems full (loss of access)
Dev fix description: Reclaim space more effectively after DB2 reorg
Pervasive: Yes
Ref: 71698

Serious: unexpected cluster reboot (loss of access)
Dev fix description: Added an hourly check for DB2 system error condition
Pervasive: Yes
Ref: 78542 (also fixed in vtd_exec.233 v1.01 and higher)

Serious: Security related vtd_exec installation failed because file system had insufficient space
Dev fix description: Split VTD_EXEC.215 into two execs, VTD_EXEC.215 for 32-bit and VTD_EXEC.235 for 64-bit
Pervasive: Yes
Ref: 78696 (also fixed in vtd_exec.213 & 235 - v1.08 and above)

Serious: Incomplete copy of logical volume on other cluster
Dev fix description: Correct sync code logic to complete copy
Pervasive: No
Ref: 80347

Serious: Cluster reboot (loss of access) after internal memory filled
Dev fix description: Correct code logic error to free up memory correctly
Pervasive: No
Ref: 80415

Serious: Upgrade to 8.32 corrupted DB files (extended service window)
Dev fix description: Allow background DB process to complete before proceeding
Pervasive: No
Ref: 77146

Serious: FICON adapter error caused cluster reboot (loss of access)
Dev fix description: Change was made in handling Selective Resets to eliminate a timeout condition
Pervasive: No
Ref: 77007

Serious: FICON adapter error caused host job abends
Dev fix description: Logic corrected to remove cause of internal error MDE 5F0C 0012
Pervasive: No
Ref: 77005

Serious: cluster stopped processing (required restart to recover)
Dev fix description: restart communication & add more logging to capture failure
Pervasive: No
Ref: 76958

Serious: FICON adapter error caused host job abend when job cancelled
Dev fix description: corrected code logic for cancel
Pervasive: No
Ref: 76712

Serious: unexpected restart of cluster (loss of access)
Dev fix description: code added to validate paths for grid manager
Pervasive: No
Ref: 75065

Serious: Host job abends / slow responses
Dev fix description: Change default time for DB2 reorg to offset from online time
Pervasive: No
Ref: 76931

Serious: Incorrect error recovery keeps FICON adapters from functioning
Dev fix description: Logic changed to allow correct recovery for FICON adapters
Pervasive: No
Ref: 79902

Serious: Host performance significantly slowed due to error recovery (reboot required to recover)
Dev fix description: Improve logic in grid code to lessen impact to host from hardware error
Pervasive: No
Ref: 79890

Serious: After code update to 8.33 3494 VTS format physical volumes not recognized
Dev fix description: Add support for media in ADSM format
Pervasive: No
Ref: 79777

Serious: Unexpected cluster restart (loss of access)
Dev fix description: improved DB2 logging for debug of termination signal
Pervasive: No
Ref: 77117

Serious: FICON adapter replacement process caused unexpected cluster restart (loss of access)
Dev fix description: Improve FICON code logic to avoid error
Pervasive: No
Ref: 79971

Serious: Physical volume marked FF20 (damaged) after a volume audit was followed by mount
Dev fix description: Correct logic to prevent FF20 category assignment
Pervasive: No
Ref: 79367

Serious: Pool encryption enabled without EKM server configured
Dev fix description: Improve System checkout to identify condition
Pervasive: No
Ref: 79208

Serious: Failure of single path to the cache caused cluster to restart
Dev fix description: correct logic to only restart when both cache access paths lost
Pervasive: No
Ref: 79200

Serious: hard disk errors caused system restart (loss of access)
Dev fix description: improve logic to do hardware replacement concurrently
Pervasive: No
Ref: 79005

Serious: FICON adapter recovery code incomplete (cluster restarted)
Dev fix description: Correct FICON firmware to perform recovery
Pervasive: No
Ref: 78899

Serious: unexpected cluster restart (loss of access)
Dev fix description: cluster communication manager initialization change
Pervasive: No
Ref: 78869 (also fixed in vtd_exec.227 v1.03 and higher)

Serious: Unexpected cluster restart (loss of access)
Dev fix description: Change the logic to prevent multiple requests from stopping DB2
Pervasive: No
Ref: 78720

Serious: Communication manager hung; restart required (loss of access)
Dev fix description: Code logic to monitor required process; forces cluster restart to prevent the hang
Pervasive: No
Ref: 78446 (also fixed in vtd_exec.103 v. 1.49 and higher)

Serious: After code load cluster failed to merge; restart required (loss of access)
Dev fix description: Corrected grid token merge code logic to handle error
Pervasive: No
Ref: 78370

Serious: Unexpected cluster restart (loss of access)
Dev fix description: Prevent script from starting multiple times
Pervasive: No
Ref: 78349

Serious: physical volumes not all inserted to internal cluster database
Dev fix description: Change code logic to eliminate loss of volume records
Pervasive: No
Ref: 78304

Serious: cluster error recovery loop caused stall in communication (loss of access)
Dev fix description: improve logic to prevent loop
Pervasive: No
Ref: 77938

Serious: cluster restarted due to internal cache error (loss of access)
Dev fix description: Improved monitoring and logging of conditions for diagnosis
Pervasive: No
Ref: 77763

Moderate: code activation failed (longer service outage)
Dev fix description: Correct logic to manage file names correctly
Pervasive: Yes
Ref: 79180

Moderate: Grid link reports slow heartbeats
Dev fix description: correct code logic managing internal system memory
Pervasive: Yes
Ref: 79805 (also fixed in vtd_exec.241 v1.1 and above)

Moderate: Selective resets from host after HALT SUBCHANNEL INTERRUPT MISSING
Dev fix description: Added code logic to prevent channel sequence from generating error
Pervasive: Yes
Ref: 76271 / 80054

Moderate: Grid copy hung (Required manual clear)
Dev fix description: Correct code to not cancel copy
Pervasive: Yes
Ref: 78258

Moderate: online process extended after code upgrade
Dev fix description: Correct DB migration process in join in mixed code level grid
Pervasive: Yes
Ref: 78172 (also fixed in vtd_exec.230)

Moderate: same event OP0763 posted multiple times
Dev fix description: fix logic so event won't be posted repeatedly
Pervasive: Yes
Ref: 77337 (also fixed in vtd_exec.188 v1.2 and higher)

Moderate: extended window for join (token merge failed)
Dev fix description: change code logic
Pervasive: Yes
Ref: 78324

Moderate: Mounts delayed from internal DB2 process conflict "IOS070E 9D4E, MOUNT PENDING"
Dev fix description: DB2 logic changed to prevent conflict
Pervasive: Yes
Ref: 77314 (also fixed in vtd_exec.218 – all versions)

Moderate: Grid links show degraded info from old status if Service login active
Dev fix description: Improve design to avoid showing incorrect status
Pervasive: Yes
Ref: 75974

Moderate: FICON command fails from FICON adapter code error; retry successful
Dev fix description: Correct FICON adapter code to remove failure
Pervasive: Yes
Ref: 74485

Moderate: Java processes stalled
Dev fix description: improve code logic to reduce failure probability and increase logging
Pervasive: Yes
Ref: 79326

Moderate: cluster merge stalled (extended window)
Dev fix description: improve logic when DB restore is slow
Pervasive: Yes
Ref: 74627

Moderate: AOTM failed to take over
Dev fix description: TSSC code 7.5.3 and this fix required to correct problem of takeover
Pervasive: Yes
Ref: 77268

Moderate: volume ownership conflict following offline state of cluster created FF20 category
Dev fix description: Add code to check for condition and perform call home and x11 message
Pervasive: Yes
Ref: 78784

Moderate: Message posted on Management Interface for cache issue (no issue in cache)
Dev fix description: Change the message to be appropriate
Pervasive: Yes
Ref: 77600

Moderate: MI displaying disk status incorrectly (based on internal check)
Dev fix description: correct pointer to not display old status
Pervasive: Yes
Ref: 77456

Moderate: communication manager failure had insufficient data captured
Dev fix description: change design of logging for communication manager
Pervasive: No
Ref: 78354 / 78907 / 77933 (also fixed in vtd_exec.227 v. 1.01)

Moderate: Improvement in reporting of file system space exceeding safe amount
Dev fix description: Improve logging in exec
Pervasive: No
Ref: 76790 (also fixed in vtd_exec.103 v. 1.43 and higher)

Moderate: Host command to do demount of logical volume failed with GREE_LD_FLUSH_ERA29_31
Dev fix description: Add code to capture additional logs to allow debug
Pervasive: No
Ref: 77569

Moderate: New volume mount on cluster entering service prep received error ERA29_20
Dev fix description: Change code logic so that new mount continues
Pervasive: No
Ref: 77335

Moderate: Host commands failed after 3584 library configuration changed
Dev fix description: resync attached 3584 library
Pervasive: No
Ref: 76882

Moderate: copy export reported error inappropriately on Management Interface
Dev fix description: MI code logic Improvement to keep errors from posting inappropriately
Pervasive: No
Ref: 76468

Moderate: Code update window extended from failure to go online
Dev fix description: Improve code synchronization between components
Pervasive: No
Ref: 79736

Moderate: Online after code load failed
Dev fix description: Verify correct performance parameters loaded during online
Pervasive: No
Ref: 79341

Moderate: FICON adapter restart with code 200006C
Dev fix description: Correct adapter code logic to avoid restart
Pervasive: No
Ref: 79371

Moderate: Internal file system reached threshold for full (stopped cluster operation)
Dev fix description: increase file system size
Pervasive: No
Ref: 78778

Moderate: extended service window after code activation failed
Dev fix description: correct logic error in GPFS backup
Pervasive: No
Ref: 79169

Moderate: Copy refresh to multiple clusters add does not sync recalls
Dev fix description: Change code logic to sync copy sources
Pervasive: No
Ref: 71994

Moderate: HDM heartbeats timing out from configuration change in communication manager
Dev fix description: Change internal configuration to prevent time out
Pervasive: No
Ref: 80377

Moderate: grid to grid merge fails copies if source grid has scratch for volume and mount occurs
Dev fix description: Put a CSG copy job only when LVOL_TOK.MES flag shows 'G' (i.e. GGM copy job (CSG or CTG) is set.
Pervasive: No
Ref: 80100

Moderate: Read Only Recovery stayed in progress (problem not understood)
Dev fix description: Increased logging as large number pvols
Pervasive: No
Ref: 79848

Moderate: statistics missing fields after join (reboot required)
Dev fix description: correct code logic to correct missing fields
Pervasive: No
Ref: 79781

Moderate: improve error recovery in physical tape library attach code
Dev fix description: Improve code logic to improve recovery
Pervasive: No
Ref: 79008

Moderate: Configuration data incorrectly stored during model upgrade
Dev fix description: Improved code logic to recover from upgrade failure
Pervasive: No
Ref: 78280

Moderate: Copy export recovery hangs (requires support engagement)
Dev fix description: Restore correct values to recovery cluster (standalone)
Pervasive: No
Ref: 79095

Moderate: Incorrect logical volume status on Management Interface
Dev fix description: Correct logic to display status correctly
Pervasive: No
Ref: 78724

Moderate: FICON adapter error created EEH in controller (FICON abends)
Dev fix description: Corrected FICON adapter logic
Pervasive: No
Ref: 77831

Moderate: Grid merge failed (extended window)
Dev fix description: Improve logic for file transfer so DB2 file merge completes
Pervasive: no
Ref: 77424

Moderate: Increase cache configuration log size so it is sufficient to contain required data
Dev fix description: increase size and number of logs saved
Pervasive: No
Ref: 77339

Moderate: Join of new cluster failed with DB2 issue (manual restart required on existing cluster)
Dev fix description: Adding additional logging to capture DB2 state that existed in operational cluster
Pervasive: No
Ref: 77198

Moderate: Dual router failure replacement failed (extended service window)
Dev fix description: modified logic to allow replacement to be completed
Pervasive: No
Ref: 77156

Moderate: Cache expansion frame add failed (extended service window)
Dev fix description: Improve internal code logic to avoid failure
Pervasive: No
Ref: 77153

Moderate: Fast Ready mounts delayed more than 1 minute under heavy IO
Dev fix description: increased number of communication threads to 75 from 50
Pervasive: No
Ref: 77070

Moderate: Backend 3592 drive missing one communication path
Dev fix description: Adjusted algorithm for drive configuration
Pervasive: No
Ref: 76932

Moderate: Simulated DR test failed when grid links forced off at switch port (no ownership takeover)
Dev fix description: logic changed to serialize calls to 2 functions that had caused conflict
Pervasive: No
Ref: 76692

Moderate: Hot tokens built up against removed cluster (required restart)
Dev fix description: Improved logic in grid communication manager
Pervasive: No
Ref: 76856

Moderate: Grid link path missing after code upgrade (heartbeats missing)
Dev fix description: Corrected code logic to insure correct data present for full communication
Pervasive: No
Ref: 74703

Moderate: Surface new message when cluster loses communication with all other clusters
Dev fix description: New message created when single cluster isolated from other clusters
Pervasive: No
Ref: 79767

Moderate: vtd_check lost hdisk test after internal error
Dev fix description: Increase timeout value for check
Pervasive: no
Ref: 78004 (also fixed in vtd_exec.103 v1.48 and higher)

Moderate: Callhome process terminated incorrectly
Dev fix description: Improve logic to prevent callhome process failure
Pervasive: no
Ref: 77498

Moderate: FICON adapter restarted unexpectedly
Dev fix description: Correct code logic to prevent adapter restart
Pervasive: No
Ref: 79796

Moderate: Management Interface server restarting unexpectedly (short loss of MI)
Dev fix description: Improved code logic to eliminate failure
Pervasive: No
Ref: 79195

Moderate: Logical volume copy stuck in copy queue
Dev fix description: change code logic to remove internal logic issue
Pervasive: No
Ref: 79185

Moderate: pre-migrate delay setting not honored
Dev fix description: change logic to recognize premig delay setting
Pervasive: No
Ref: 78162

Moderate: Toggle auto-removal disabled on TS7720T when Flash Copy enabled
Dev fix description: Change logic to disable auto-removal when Flash Copy is enabled
Pervasive: no
Ref: 78061

Moderate: Events cause cluster health to show as 'Failed' for any Error or Warning event
Dev fix description: Change cluster overall health to Degraded for those events
Pervasive: no
Ref: 77999 (Also fixed in vtd_exec.228 v1.1 and higher)

Moderate: Sync-deferred state (unexpected) after copy mode changed and mount occurred
Dev fix description: Change code logic to not set sync-deferred in this case
Pervasive: no
Ref: 77887

Moderate: Unjoin left special tokens hot (manual reset required)
Dev fix description: Correct code logic to reset hot tokens
Pervasive: No
Ref: 77847

Moderate: Java update in vtd_exec stopped DS6k GUI
Dev fix description: Revise logic for Java updates
Pervasive: No
Ref: 77830 (Also fixed in vtd_exec. 213 v1.04 and higher)

Moderate: Flash copy failed for not having both MEDIA1 and MEDIA2 in WP exclusion category
Dev fix description: code logic changed to require only one write protect category
Pervasive: No
Ref: 77169

Moderate: copy export merge failed (DB internal pointer incorrect)
Dev fix description: Correct logic for DB code
Pervasive: No
Ref: 77703

Moderate: grid links report degraded from configuration variable and not link state
Dev fix description: correct code logic to prevent false reporting
Pervasive: No
Ref: 77054

Moderate: grid links marked failed incorrectly when same subnet used
Dev fix description: correct logic for grid link error reporting
Pervasive: no
Ref: 76829 (also fixed in vtd_exec.103 v1.44 and higher)

Moderate: copy of logical volume stuck RPnd
Dev fix description: Correct logic for copy
Pervasive: no
Ref: 77522

Moderate: Service window exceeded after join error
Dev fix description: Force cluster with file issue to reboot & surface specific error
Pervasive: No
Ref: 77507

Moderate: Read Only Recovery on physical volume stuck
Dev fix description: Improve code logic to keep ROR from affecting other functions
Pervasive: No
Ref: 76631

Moderate: code activation failed after timeout
Dev fix description: Improve code logic to avoid timeout
Pervasive: No
Ref: 76477

Moderate: Paused 3584 library halted mounts and filled cache
Dev fix description: Add forced pause indication to MI and console
Pervasive: No
Ref: 76574

Moderate: logical volume never copies (internal forced service state)
Dev fix description: correct code logic managing volume status
Pervasive: No
Ref: 76465

Moderate: Degraded cluster after code upgrade
Dev fix description: Make the network threshold settings persist across code upgrade
Pervasive: No
Ref: 73803

Moderate: Improved security in html used in Management Interface communication
Dev fix description: Improved security in packet exchange
Pervasive: No
Ref: 79809

Service: DDM failure rate in 600 GB cache ddms above normal
Dev fix description: Add new firmware for 600 GB DDMs
Pervasive: Yes
Ref: 79363 (also fixed in vtd_exec.154 v1.71 and higher)

Service: vtd_execs had to be installed with vtd_exec.202 done last (JAVA security updates)
Dev fix description: correct code logic for check of Java levels
Pervasive: Yes
Ref: 79522 / 78577 / 79956 (also fixed in vtd_execs 202, 213, 214, 215 & 235)

Service: Call homes accumulate & not closing properly
Dev fix description: Correct code logic to remove call home files once data files sent
Pervasive: Yes
Ref: 78970 / 78653 / 78711 (also fixed in vtd_exec.188 v. 1.3)

Service: Error recovery for physical drive errors
Dev fix description: improve code logic for physical drive error recovery
Pervasive: Yes
Ref: 77469

Service: Diagnostic log filling with messages that should not be occurring
Dev fix description: Reduce cause for log entries that should not be present
Pervasive: Yes
Ref: 77451

Service: EEH recovery of FICON adapter failed
Dev fix description: updated code to configure correct state in adapter
Pervasive: Yes
Ref: 77221

Service: Cache code load failed one component (extended window)
Dev fix description: corrected code update logic for specific model
Pervasive: yes
Ref: 76928

Service: AOTM failures unclear for cause
Dev fix description: Add logic for problem determination
Pervasive: Yes
Ref: 76503

Service: Frame replacement hung in activation (extended service window)
Dev fix description: Identify condition before beginning activation
Pervasive: No
Ref: 80183

Service: Installation of vtd_exec.211 fails
Dev fix description: Correct logic to allow exec to install
Pervasive: No
Ref: 79682 / 79578 (Fix also in vtd_exec.211 v.1.4)

Service: Code upgrade failed (extended window)
Dev fix description: correct logic to surface errors introduced at earlier configuration
Pervasive: No
Ref: 78797

Service: Unjoin service window extended from code internal conflict
Dev fix description: Pause background running DB reorg process during unjoin
Pervasive: No
Ref: 78582

Service: Cluster re-number all0wed for grid – caused internal code problem
Dev fix description: Validate if in grid before allowing cluster renumber
Pervasive: No
Ref: 78257

Service: Warning posting with unclear message "Warning - GMES is not in progress"
Dev fix description: Change message content
Pervasive: No
Ref: 78017

Service: Upgrade to cache failed after hardware component replaced
Dev fix description: Changed code logic to account for repair
Pervasive: No
Ref: 77797

Service: Installation of code component failed during upgrade
Dev fix description: Timer extended
Pervasive: No
Ref: 77762

Service: improve display of grid links in test screen
Dev fix description: Add identification of 'Gateway' to display of IP addresses
Pervasive: No
Ref: 77396

Service: feature key with lower case letter fails (extended window)
Dev fix description: change logic to correct case
Pervasive: no
Ref: 77340

Service: Code communication conflict during cache configuration
Dev fix description: add recovery when conflict is present
Pervasive: No
Ref: 77200

Service: Improve join/merge vtd_exec.084 (missed overlapping ranges)
Dev fix description: Allow choice of joining or existing grid
 Pervasive: No
Ref: 77190 (fixed in vtd_exec.084 v1.20 and higher)

Service: Failed DDM incorrectly reported as cabling problem
Dev fix description: Correct code logic of system checkout
Pervasive: No
Ref: 76640

Service: Cache MES failed after recovery
Dev fix description: Improve code logic to allow MES restart
Pervasive: No
Ref: 76528

Service: code activation halted from invalid reason
Dev fix description: correct code logic to prevent failure
Pervasive: No
Ref: 76026

Service: Code activation failed on new cluster install
Dev fix description: Code logic improved to improve recovery
Pervasive: No
Ref: 75796

Service: New cluster join failed for hot tokens – extended service window
Dev fix description: allow up to 250 hot tokens; surface message if above 250
Pervasive: No
Ref: 75578

Service: improve physical drive path recovery after an error
Dev fix description: Corrected the logic check to recover more quickly
Pervasive: No
Ref: 78499

Service: EKM IP addresses not saved correctly / reported success when failed to save
Dev fix description: correct code logic
Pervasive: No
Ref: 79211 / 79210

Service: Internal failure of code for configuration of cache communication
Dev fix description: correctly code logic for Symbol port process
Pervasive: No
Ref: 78929

Service: Call to Repair Fiber Paths reset working path (host job timeouts)
Dev fix description: Only reset the bad path
Pervasive: No
Ref: 78635

Service: vtd_exec.211 install failed
Dev fix description: Improvements to vtd_exec.211 and DB2 code
Pervasive: No
Ref: 78448 (also fixed in vtd_exec.211 v. 1.13 and above)

Service: Service GUI to cache restarts unexpectedly
Dev fix description: Correct logic to avoid conflict
Pervasive: No
Ref: 78463

Service: extended code upgrade window (unexpected error starting DB)
Dev fix description: change logic to allow error and not fail start
Pervasive: No
Ref: 77574

Service: Improve DVD repair procedures
Dev fix description: Improve logic in replacement
Pervasive: No
Ref: 77540

Service: frame replace process improved to allow restart
Dev fix description: recovery process implemented for restart of process
Pervasive: No
Ref: 77270

Service: FICON adapter replacement extended
Dev fix description: logic changed to correct value used
Pervasive: no
Ref: 77275

Service: DDM drive code EC5C causes early failure of DDM
Dev fix description: Update DDM firmware to EC5F
Pervasive: No
Ref: 78991 (fix also contained in vtd_exec.154 v. 1.5 and higher)

Service: cache configuration log size inadequate to capture required info during code update
Dev fix description: code changed to increase log size
Pervasive: No
Ref: 77635

Service: code activate failed due to state of cache (timeout)
Dev fix description: change to code to verify state before proceeding
Pervasive: No
Ref: 77125

Service: Support tool to remove or close specific tasks
Dev fix description: Created a tool to display detailed task information and close out specific id's
Pervasive: No
Ref: 76674

Service: Many error log entries when Atape retrieves 3592 drive dump with size 0
Dev fix description: Atape will log the error once
Pervasive: No
Ref: 80346

Improvement: private mount against Sync copy modes always marks the volume hot during the mount
Dev fix description: code logic changed to prevent marking token hot
Pervasive: Yes
Ref: 76657

Improvement: Host receives incorrect error sense for failing command
Dev fix description: code logic corrected to return correct sense data in response
Pervasive: Yes
Ref: 77902

Improvement: HYDME0066E at login to Management Interface
Dev fix description: Improve grid manager code logic to allow recovery
Pervasive: No
Ref: 77980

Improvement: Allow removal target REMVTHR to be set higher than 10 TB via LI REQ
Dev fix description: Allow a TS7720 (not for TS7720T) to set higher removal threshold
Pervasive: No
Ref: 77552

Improvement: Timing problem in code prevented some statistics from being logged
Dev fix description: Increased timer to allow large cache to respond
Pervasive: No
Ref: 77413

Improvement: Selection of cluster directed to one where data not consistent
Dev Fix description: correct code logic to avoid copy of data back to cluster
Pervasive: No
Ref: 77001

Improvement: Read Only Recovery cancelled by Copy Export
Dev Fix description: Correct code logic to complete ROR process
Pervasive: No
Ref: 74147

Improvement: Some 'informational' interventions were alarming customer due to high severity set
Dev fix description: Informational events are visible in the GUI as INFO instead ERROR or WARNING
Pervasive: No
Ref: 79499

Improvement: Admin cannot modify user w/o changing password
Dev fix description: Improve internal code to allow modify w/o changing password
Pervasive: No
Ref: 78819

Improvement: copy export recovery back up done with inconsistent special token
Dev fix description: Keep default special tokens from when the machine was initialized
Pervasive: No
Ref: 76439

Improvement: copy export failed when reclaim running
Dev fix description: Improve code logic to prevent time out for conflicting operation
Pervasive: No
Ref: 76434

Improvement: Change logging process for BVIR process
Dev fix description: correct code logic for logging
Pervasive: No
Ref: 75920

Improvement: Reclaim candidate table filled with single entry (no reclamation occurred)
Dev fix description: reduction of log messages from the reclaim (increase logging depth)
Pervasive: No
Ref: 79068

Improvement: reduce default sensitivity to grid link test parameters for alert
Dev fix description: Default GRID and TSSC system check for packet loss increased to 20% (from 10%)
Pervasive: No
Ref: 78966

Improvement: Keep drive offline if taken off by service process
Dev fix description: Change code logic to not automatically put drive online if offline for service
Pervasive: No
Ref: 78833

Improvement: Library related information missing from statistic records
Dev fix description: Change code logic to parse library data correctly
Pervasive: No
Ref: 78320

Service: DVD errors posting from incorrect code
Dev fix description: correct code logic to add parameter
Pervasive: No
Ref: 77161 (also fixed in vtd_exec.103 v1.43 and higher)

Improvement: cluster went online with missing file system
Dev fix description: improve the online check process for closed fs
Pervasive: No
Ref: 76898

Improvement: incorrect count of migrated volumes
Dev fix description: corrected code logic
Pervasive: No
Ref: 77833

Improvement: Incorrect statistic displayed for premigration delay time after join
Dev fix description: Correct code logic to use correct value
Pervasive: No
Ref: 77662

Improvement: reclaim threshold at 5% increments contained too many candidates
Dev fix description: Reclaim threshold can now be incremented by 1% increments
Pervasive: No
Ref: 77103 / 74516

Improvement: Mixed E06/E07 library created copy export to fail
Dev fix description: Enabled Copy Export to export both E06 and E07 format pvols when Export Format
was set as Default
Pervasive: No
Ref: 76976

Improvement: X10 attention surfaced for logical volume insert operation even if no volume inserted
Dev fix description: Suppress X10 attention if no actual logical volume is inserted.
Pervasive: No
Ref: 76916

Improvement: alignment of graph offset for clusters (x-axis) on management interface
Dev fix description: data management style added for proper rendering of data
Pervasive: No
Ref: 73571

Service: Background hard disk media scan not working
Dev fix description: Background media scan changed to work on SAS drives
Pervasive: No
Ref: 78882

Improvement: Details of cluster identification missing on Management Interface
Dev fix description: code changed to provide more identification
Pervasive: No
Ref: 71894

Improvement: Added log files to package of files gathered in hydradump
Dev fix description: Improved log package captured
Pervasive: No
Ref: 77237 / 77237 / 77180 / 76253

Service: vtd_exec.222 set up default routing for subnet mask (used in grid to grid merge)
Dev fix description: Correct code logic to match existing network for configuration
Pervasive: No
Ref: 80022 (also fixed in vtd_exec.222 v1.3 and higher)

Improvement: add monitor to DB to identify missing or persistent hot tokens
Dev fix description: Add check for nonexistent tokens in the grid
Pervasive: No
Ref: 78927

Improvement: Logging of process going to a wrong file
Dev fix description: Correct the logging path in the scripts
Pervasive: No
Ref: 78897

Improvement: file system configuration logs insufficient for multiple days
Dev fix description: create more logs and add rotation
Pervasive: No
Ref: 78293

Service: add tool to provide method for development to manage logical volume in cache
Dev fix description: Add new function to development tool
Pervasive: No
Ref: 77581

Service: Improve cluster join operation to prevent failure
Dev fix description: Modified command that locks DB token to avoid any potential race conditions
Pervasive: No
Ref: 77573

Service: Correct service panel use of internal command
Dev fix description: Implement correct invocation of command
Pervasive: No
Ref: 77514

Improvement: Improve join process by eliminating unnecessary step
Dev fix description: Skip file gathering if local cluster new/empty
Pervasive: No
Ref: 77457

Improvement: Post MI event and reject duplicate physical volume in attached library
Dev fix description: improve code logic to avoid duplicates
Pervasive: No
Ref: 77130 / 70258

Improvement: Display additional information for categories
Dev fix description: Add relevant output in format of "LI REQ OTCNTL,DIST"
Pervasive: No
Ref: 77013

Improvement: Improve Management Interface display on volume search
Dev fix description: Provide cluster owner info to the management interface
Pervasive: No
Ref: 77012

Service: System crashed during code upgrade
Dev fix description: Code logic change in managing memory allocation during upgrade
Pervasive: No
Ref: 76999

Improvement: Internal monitor program restarted
Dev fix description: Added separation in checking steps
Pervasive: No
Ref: 76973

Improvement: Enhance automatic data capture for unexpected system states
Dev fix description: When a process is killed unexpectedly save a system trace
Pervasive: No
Ref: 76575

Improvement: Add day of week to selections for DB2 reorg setup on SMIT
Dev fix description: Implement more selections for setup of DB2 reorg
Pervasive: No
Ref: 75423

Improvement: Join doc describes state of clusters being joined – error was not clearly defined
Dev fix description: If join process detects the remote cluster is not online, abort the process
Pervasive: No
Ref: 75200

Improvement: Enhance management interface view of copy queue
Dev fix description: Provide more information about incoming copy queues to MI
Pervasive: No
Ref: 75076

Service: add detail to error report from configuration failures on caisson
Dev fix description: code change to put details into AIX error log
Pervasive: No
Ref: 73454

Service: Call home on DDM failure contains insufficient detail
Dev fix description: Single DDM failure will report relevant details
Pervasive: No
Ref: 71382

Improvement: Some Management Interface input fields of password had attribute to autocomplete allowed
Dev fix description: All password input fields changed to disable autocomplete
Pervasive: No
Ref: 69069

Improvement: lvol move started from MI moves selected lvols from one pool to another. However, this effect is not permanent.
Dev fix description: Any lvols moved to the new pool by lvol move function will stay in the new pool when resident on recall, ROR and Offsite Reclaim happens.
Pervasive: No
Ref: 65571