

TS7700 Release Notes - 8.33.1.11 (R3.3 PGA 1)

IBM System Storage TS7700

Release Notes for the TS7740 & TS7720 (3957 V07 & VEB)

EC: M13623 - released 05/03/2016

New Function Supported:

none

Hydra	8.33.1.11 (EC M13623, PN 2726095, 2726096 and 2726097 (DVD 1, 2 & 3))
DB2	10.5.0.3 Informational tokens: "DB2 v10.5.0.3", "s140203", "IP23544", and Fix Pack "3"
AIX Base Level	6.1.9.30
AIX Fixpack	6100-09-04-1441+00
HV32 Firmware	AL730_117
TS3500 (Anaconda) Firmware	E220
3592 J1A Tape Drive	D310_C90 (Included under EC M13368) or D310_C90 (PN 45E6140)
3592 E05 Tape Drive	D311_F1F (Included under EC M13368) or D311_F1F (PN 95P8734)
3592 E06 Tape Drive	D312_883 (Included under EC M13368) or D312_883 (PN 12X4428)
3592 E07 Tape Drive	D313_829 (Included under EC M13368) or D313_98B (PN 38L7277)
3592 E08 Tape Drive	D314_51E (Included under EC M13368) or D314_520 (PN 17R7017)
TSSC	8.0.14 (EC M13370, PN 38L7490 and PN 38L7491 (CD-ROM 1 & 2))
TSSC Documentation	(EC M13370 PN 38L7492)
3956-CC7/CS7 Firmware	07.60.63.00 (Included under EC M13368)
Storage Manager GUI	11.10.0G05.0023
3956-CC8/CS8 Firmware	07.84.46.00 (Included under EC M13368)
Storage Manager GUI	11.10.0G05.0023
3956-CC9/CS9 Firmware	08.10.16.00 (Included under EC M13368)
Storage Manager GUI	11.10.0G05.0023
TKLM	TKLM v1 FP4 TKLM v2 FP5
ISKLM	2.5.0.5
Atape	12.9.6.0
GPFS	Release 4.1.1 PTF 7
SSPC	1.3.1, 1.3.2, 1.5
ITDT	8.0.1.20150217
AIX Diagnostics CD	V7.1.1.0 (EC M13368, PN 95P7969)
4Gbit Emulex Switch Firmware	3.55
8Gbit Emulex Switch Firmware	1.7
4Gbit Host FICON Firmware	BJ273X15
8Gbit Host FICON Firmware	BJ112X5
VTD EXECs	VTD_EXEC.103 version: 1.51

Also included in this release is new cache DDM firmware for the following models:

DDM Model	Firmware Level
CS9 - DDM 3TB - ST3000NM0043	5C5J
CC8 - DDM 600GB - HUS1560600FC	HJ04

PROBLEM FIXES:

Problems fixed in this level are described below. There are 143 defects fixed in this release; 89 of those occurred or were related to problems in client installations. The 89 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 (loss of access)

Dev problem description: DB2 command syntax incorrect; reorg hangs and causes restart of cluster.

Dev fix description: Correct the command syntax

Pervasive: Yes

Ref: 79104 / 79469 / 78540 (also fixed in vtd_exec.234 v. 1.09 and higher)

High Impact: cancel of recall plus pool change caused incomplete copy of volume on cluster

Dev problem description: Code logic problem with managing state of recalled logical volume

Dev fix description: Improved logic to avoid corrupting volume

Pervasive: No

Ref: 79450

Serious: DB2 file systems full (loss of access)

Dev problem description: The DB2 system container grows across upgrades

Dev fix description: Revise DB2 migration process on code upgrades

Pervasive: yes

Ref: 71698 (also fixed in vtd_exec.211)

Serious: Unexpected cluster restart (loss of access)

Dev problem description: a monitoring script kills processes inappropriately, causing the Hydra to restart

Dev fix description: correct the logic to stop only correct processes

Pervasive: Yes

Ref: 79156 (also fixed in vtd_exec.238 v. 1.01)

Serious: Incorrect setting on cache controller - outage needed to correct

Dev problem description: DDMm management parameter set on and should be off

Dev fix description: Update cache controller code to correct parameter setting

Pervasive: Yes

Ref: 78996

Serious: unexpected cluster reboot (loss of access)

Dev problem description: DB2 log file overflow after DB2 system error

Dev fix description: Added an hourly check for this condition

Pervasive: Yes

Ref: 78542 (also fixed in vtd_exec.233)

Serious: Incomplete copy of logical volume on other cluster

Dev problem description: Code logic fault caused incomplete copy of logical volume on other clusters

Dev fix description: Correct sync code logic to complete copy

Pervasive: No

Ref: 80347

Serious: Cluster rebooted after internal AIX process was stopped inappropriately

Dev problem description: Internal error causing failure of base AIX process

Dev fix description: Add code to allow better debug of failure

Pervasive: No

Ref: 78986

Serious: Host job abends / slow responses

Dev problem description: DB2 background reorgs conflict with host job usage

Dev fix description: Change default time for reorg to offset from online time

Pervasive: No

Ref: 76931

Serious: Incorrect error recovery keeps FICON adapters from functioning
Dev problem description: Adapter recovery code leaves FICON adapters in a dead state
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 problem description: After internal hardware error recovery one cluster did not fully recover
Dev fix description: Improve logic in grid code to lessen impact to host
Pervasive: No
Ref: 79890

Serious: Error recovery during concurrent FICON adapter maintenance failed
Dev problem description: Code logic error in hot swap procedure caused FICON adapter to reboot
Dev fix description: Improve recovery logic to prevent adapter reboot
Pervasive: No
Ref: 79971

Serious: Physical volume marked FF20 (damaged) inappropriately
Dev problem description: Logical volume audit followed by volume mount cause pvol to be assigned to damaged category
Dev fix description: Correct logic to prevent FF20 category assignment.
Pervasive: No
Ref: 79367

Serious: Pool encryption enabled without EKM server configured ABC
Dev problem description: EKM is not configured but there are pools marked encrypted
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 problem description: test of cache health was done to single path
Dev fix description: correct logic to only restart when both cache access paths lost
Pervasive: No
Ref: 79200

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

Serious: Unexpected cluster restart

Dev problem description: multiple external requests made simultaneously caused internal DB2 hang

Dev fix description: Change the logic to prevent the hang

Pervasive: No

Ref: 78720

Serious: Communication manager hung; restart required (loss of access)

Dev problem description: Internal communication manager hung

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 problem description: Conflict in grid token merge code

Dev fix description: Corrected code logic to handle error condition

Pervasive: No

Ref: 78370

Serious: Unexpected cluster restart

Dev problem description: Internal code conflict from duplicate internal process

Dev fix description: Prevent script from starting multiple times

Pervasive: No

Ref: 78349

Serious: physical volumes not all inserted to internal cluster database

Dev problem description: mount fails and and cartridge goes misplaced.

Dev fix description: Change code logic to eliminate loss of volume records

Pervasive: No

Ref: 78304

Serious: cluster restarted due to internal cache error (loss of access)

Dev problem description: Grid code lost cache access

Dev fix description: Improved monitoring and logging of conditions for diagnosis

Pervasive: No

Ref: 77763

Serious: After code update to 8.33 3494 VTS format physical volumes not recognized

Dev problem description: Cluster failed to go online because there were pvols in ADSM format

Dev fix description: Add support for media in ADSM format

Pervasive: No

Ref: 79777

Serious: Cluster reboot

Dev problem description: Internal logic error using up internal memory

Dev fix description: Correct code logic error to free up memory correctly

Pervasive: No

Ref: 80415

Moderate: code activation failed (long outage)

Dev problem description: Internal logic error in managing internal file naming during code upgrade

Dev fix description: Correct logic to manage file names correctly

Pervasive: Yes

Ref: 79180

Moderate: FICON command fails from FICON adapter code error; retry successful

Dev problem description: Invalid PLF order created by FICON adapter code

Dev fix description: Correct FICON adapter code to remove failure

Pervasive: Yes

Ref: 74485

Moderate: cluster merge stalled (extended window)

Dev problem description: DB2 restore process slow

Dev fix description: improve logic when DB restore is slow

Pervasive: Yes

Ref: 74627

Moderate: extended window for join

Dev problem description: token merge failed on join of new cluster

Dev fix description: change code logic

Pervasive: Yes

Ref: 78324

Moderate: Grid link reports slow heartbeats

Dev problem description: code logic error in managing internal system memory

Dev fix description: correct code logic

Pervasive: Yes

Ref: 79805 (also fixed in vtd_exec.241)

Moderate: DB backup fails in copy export

Dev problem description: DB backup fails for SQLI2079

Dev fix description: retry for this specific error

Pervasive: Yes

Ref: 79248

Moderate: Java processes stalled

Dev problem description: corrupted java file caused internal failure (including Management Interface)

Dev fix description: improve code logic to reduce failure probability and increase logging

Pervasive: Yes

Ref: 79326

Moderate: FICON adapter restarted unexpectedly

Dev problem description: Valid host command caused Ficon adapter firmware to restart

Dev fix description: Correct code logic to prevent adapter restart

Pervasive: No

Ref: 79796

Moderate: Host command to do demount of logical volume failed with GREE_LD_FLUSH_ERA29_31

Dev problem description: Problem not understood

Dev fix description: Add code to capture additional logs to allow debug

Pervasive: No

Ref: 77569

Moderate: copy export recovery test failed

Dev problem description: DB2 failure in copy export recovery test

Dev fix description: path corrected to load correct DB file

Pervasive: No

Ref: 78910 (also fixed in vtd_exec.220)

Moderate: communication manager failure had insufficient data captured

Dev problem description: Insufficient logs captured by error condition

Dev fix description: change design of logging for communication manager

Pervasive: No

78354 / 78907 / 77933 (also fixed in vtd_exec.227 v. 1.01)

Moderate: Online after code load failed

Dev problem description: Online fails because cache performance parameters missing

Dev fix description: Verify correct performance parameters loaded during online

Pervasive: No

Ref: 79341

Moderate: Delay of mount for read after job completed on write

Dev problem description: mount delayed for read from internal logic error in managing lvol state

Dev fix description: Correct logic to manage read mount correctly

Pervasive: No

Ref: 79205

Moderate: Management Interface showing degraded incorrectly

Dev problem description: conflicts between code components on using IP component

Dev fix description: update code to remove conflict

Pervasive: No

Ref: 78290

Moderate: Configuration data incorrectly stored during model upgrade
Dev problem description: restart of MES for model upgrade failed
Dev fix description: Improved code logic to recover from upgrade failure
Pervasive: No
Ref: 78280

Moderate: Surface new message when cluster loses communication with all other clusters
Dev.problem description: customer request to surface additional operator message when TS7700 becomes an island."Island" means where a local cluster cannot communicate with any peer clusters.
Dev fix description: surface new message
Pervasive: No
Ref: 79767

Moderate: vtd_check lost hdisk test from internal error
Dev problem description: File systems check terminated from timeout
Dev fix description: Increase timeout value
Pervasive: No
Ref: 78004 (also fixed in vtd_exec.103 v. 1.48 and above)

Moderate: Improved security in html used in Management Interface communication
Dev problem description: security vulnerability like XFS and XSS were found.
Dev fix description: Improved security in packet exchange
Pervasive: No
Ref: 79809

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

Moderate: logical volume copy stuck in copy queue
Dev problem description: grid copy fails with EBUSY
Dev fix description: change code logic to remove internal logic issue
Pervasive: No
Ref: 79185

Moderate: logical volume never copies

Dev problem description: Forced service state caused copy to get stuck

Dev fix description: correct code logic managing volume status

Pervasive: No

Ref: 76465

Moderate: FICON adapter error created EEH in controller (FICON abends)

Dev problem description: Data pattern timing error caused FICON reset

Dev fix description: corrected FICON adapter logic

Pervasive: No

Ref: 77831

Moderate: Join of new cluster failed with DB2 issue

Dev problem description: Query timed out to remote cluster. Manual restart of operating cluster required to recover.

Dev fix description: Adding additional logging to capture DB2 state that existed in operational cluster

Pervasive: No

Ref: 77198

Moderate: Backend drive missing one communication path

Dev problem description: Drive configuration resulted in drives not being recognized.

Dev fix description: Adjusted algorithm for drive path traversal.

Pervasive: No

Ref: 76932

Moderate: Grid link path missing after code upgrade (heartbeats)

Dev problem description: Some clusters missing heartbeat

Dev fix description: Corrected code logic to insure correct data present for full communication

Pervasive: No

Ref: 74703

Moderate: Incorrect logical volume status on Management Interface

Dev problem description: MI shows logical volume status as pinned

Dev fix description: Correct logic to display status correctly

Pervasive: No

Ref: 78724

Moderate: pre-migrate delay setting not honored

Dev problem description: cache walk process for a delayed premiglvol did not manage state correctly

Dev fix description: change logic to honor premig delay setting

Pervasive: No

Ref: 78162

Moderate: service window exceeded after join error

Dev problem description: Online cluster had error in file handling of join data

Dev fix description: force cluster with file issue to reboot

Pervasive: No

Ref: 77507

Moderate: Internal file system reached threshold for full

Dev problem description: file system full could cause machine to stop

Dev fix description: increase file system size

Pervasive: No

Ref: 78778

Moderate: copy export merge failed

Dev problem description: DB internal pointer incorrect

Dev fix description: Correct logic for DB code

Pervasive: No

Ref: 77703

Service: DB2 has inaccurate log data after join or merge (posting SIM 8183)
Dev problem description: DB2 background process stops unexpectedly
Dev fix description: Correct logic for DB2 background proces
Pervasive: Yes
Ref: 78616

Service: FICON adapter not recovering from error during code activation
Dev problem description: FICON adapter code logic error (8 Gb card only)
Dev fix description: Fix FICON adapter logic error
Pervasive: Yes
Ref: 78096

Service: DDM failure rate in 600 GB cache ddms above normal
Dev problem description: Cache ddm firmware logic error causes incorrect failure of ddm
Dev fix description: Add new firmware for 600 GB DDMs
Pervasive: Yes
Ref: 79363

Service: Controller 'going online' for extended period of time after code upgrade
Dev problem description: Internal conflict between code components
Dev fix description: Correct code logic to remove conflict
Pervasive: Yes
Ref: 73566

Service: Call homes accumulate & not closing properly
Dev problem description: Logic error in call home causes call home data files to not be erased
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: vtd_execs had to be installed with vtd_exec.202 last (all related to security updates)
Dev problem description: Java code checking in error
Dev fix description: correct code logic to check only for installed Java levels
Pervasive: Yes
Ref: 79522 / 78577 / 79956 (also fixed in vtd_execs 213, 214, 215, 235)

Service: code upgrade failed (extended window)
Dev problem description: improved checking of cluster surfaced previous issue introduced in cluster by improper cluster number
Dev fix description: correct logic to surface errors introduced at earlier configuration
Pervasive: No
Ref: 78797

Service: DDM drive code causes early failure

Dev problem description: Cache DDM firmware EC5C can cause the DDM to fail prematurely

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: Installation of vtd_exec.211 fails

Dev problem description: Entries in DB/2 SETDEVCAT table cause failure.

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: Incorrect message on Management Interface

Dev problem description: File system error message presented from timing error with script

Dev fix description: correct the logic in file system code

Pervasive: No

Ref: 78291

Service: Warning posting with unclear message

Dev problem description: "Warning - GMES is not in progress" message from vtd_check is unclear

Dev fix description: Change message content

Pervasive: No

Ref: 78017

Service: improve physical drive path recovery after an error

Dev problem description: code logic error in determining loss of a physical drive path delays recovery

Dev fix description: Corrected the logic check to recover more quickly

Pervasive: No

Ref: 78499

Service: code activation fails

Dev problem description: Code activate code logic error

Dev fix description: Correct the code logic error

Pervasive: No

Ref: 78268

Service: vtd_exec.211 install failed

Dev problem description: Incorrect DB code logic used

Dev fix description: Improvements to vtd_exec.211 and code

Pervasive: No

Ref: 78448 (also fixed in vtd_exec.211 v. 1.13 and above)

Service: extended code upgrade window

Dev problem description: unexpected error when starting the database

Dev fix description: change logic to allow error and not fail start

Pervasive: No

Ref: 77574

Service: improve cluster join operation

Dev problem description: Failed join operation

Dev fix description: Modified the update command that locks DB token to avoid any potential race conditions

Pervasive: No

Ref: 77573

Improvement: Host receives Incorrect error sense for failing command

Dev problem description: invalid byte in command response

Dev fix description: code logic corrected to return correct sense data in response

Pervasive: Yes

Ref: 77902

Improvement: reduce dump size for FICON channel adapter

Dev problem description: Reduce dump size to match space required

Dev fix description: Improve memory allocation to match requirements for component

Pervasive: No

Ref: 80112

Improvement: incorrect count of migrated volumes

Dev problem description: Code logic error in managing statistics between clusters

Dev fix description: corrected code logic

Pervasive: No

Ref: 77833

Improvement: Incorrect statistic displayed for premigration delay time

Dev problem description: Grid join had loaded value into table; code logic error used preloaded value

Dev fix description: Correct code logic to use correct value

Pervasive: No

Ref: 77662

Improvement: Admin cannot modify user w/o changing password

Dev problem description: An Administrator user cannot modify a user without changing its password.

Dev fix description: Improve internal code to allow modify w/o changing password

Pervasive: No

Ref: 78819