

TS7700 Release Notes – 8.33.2.9 (R3.3 PGA 2)

IBM System Storage TS7700

Release Notes for the TS7700 (3957 VEB / V07)

- EC: M13888 released January 13, 2017

New Function Supported:

- A new LI REQ command for grid resiliency

New function support description:

A new Grid Resiliency Library Request command has been introduced to help analyze timing metrics between clusters in a TS7700 Grid configuration. Using the results of this new command, potential issues or bottlenecks can be discovered sooner within such configurations. Details will be described within an updated version of the "IBM TS7700 Series z/OS Host Command Line Request User's Guide".

TS7700 CODE COMPONENTS:

Hydra	8.33.2.9 (EC M13888, PN 00VJ865 , 00VJ866 and 00VJ867 (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	D3I0_C90 (Included under EC M13368) or D3I0_C90 (PN 45E6140)
3592 E05 Tape Drive	D3I1_F1F (Included under EC M13368) or D3I1_F1F (PN 95P8734)
3592 E06 Tape Drive	D3I2_883 (Included under EC M13368) or D3I2_883 (PN 12X4428)
3592 E07 Tape Drive	D3I3_829 (Included under EC M13368) or D3I3_98B (PN 38L7277)
3592 E08 Tape Drive	D3I4_51E (Included under EC M13368) or D3I4_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	07.84.54.00 (Included under EC M13368)
Storage Manager GUI	11.10.0G05.0023
3956-CC9/CS9 Firmware	08.20.18.00 (Included under EC M13614)
Storage Manager GUI	11.20.0G05.0018
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

PROBLEM FIXES:

Problems fixed in this level are described below. There are 96 defects fixed in this release; 49 of them occurred or were related to problems in client installations. They 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: Data inconsistent across grid after sync mode write completes successfully

Dev fix description: Code logic change to fail write if all target clusters cannot be written in sync mode

Pervasive: **Yes**

Ref: 81172

HIPER: Code upgrade on cluster caused internal conflict in other clusters (mixed code levels across grid)

Dev fix description: propagate VPD updates to all clusters during upgrade

Pervasive: **Yes**

Ref: 80489 (also fixed in vtd_exec.246 v1.03)

High Impact: Internal error recovery caused host job failure

Dev fix description: Code logic improved to avoid incorrect recovery

Pervasive: **Yes**

Ref: 81291

High Impact: Prevent error recovery from isolating a cluster during grid join

Dev fix description: Improve error recovery process by validating cluster data from grid

Pervasive: No

Ref: 81766

High Impact: TVC selection hung in loop and overflowed logs (unexpected reboot required)

Dev fix description: Code logic error to identify condition, create additional logs, and exit loop

Pervasive: No

Ref: 81528

High Impact: - File system manager error doesn't generate any sim or trigger Call Home

Dev fix description: - Parse MMFS error into format_sim (design change)

Pervasive: No

Ref: 81210

High Impact: cluster restarted unexpectedly as internal process management stopped incorrect component

Dev fix description: improve code logic from previous fix (Ref: 79156)

Pervasive: No

Ref: 80548 (also fixed in vtd_exec.238 v. 2.00+)

High Impact: Cluster operations left with 3584 library paused after service completed; host jobs failed

Dev fix description: Library management code logic change to prevent persistence of 3584 library offline condition

Pervasive: No

Ref: 80374

High Impact: cluster restarted unexpectedly from internal DB2 state

Dev fix description: Change code logic to abort the process getting stuck

Pervasive: No

Ref: 80328

Serious: FICON adapter internal test disrupts adapter initialization (adapter left offline)

Dev fix description: Code logic improvement to remove initialization conflict

Pervasive: **Yes**

Ref: 80713

Serious: Networks with regular interruptions cause many messages on link state (possible MQ stall/reboot required)

Dev fix description: Change code logic to use AIX setting to improve network reliability

Pervasive: **Yes**

Ref: 80377 (also fixed in vtd_exec.227 v. 1.04)

Serious: Host job abends after internal grid code error

Dev fix description: Grid code retry added for temporary error condition

Pervasive: **Yes**

Ref: 80208

Serious: Multiple cancels to Flash Copy DR test caused cluster recovery (automatic data resync with other clusters after DB2 table deleted)

Dev fix description: Code logic change to prevent multiple LI REQ from remote cluster

Pervasive: No

Ref: 81556

Serious: FICON adapter restarted when cancel received during Busy status sequence for Read CCW

Dev fix description: Code logic change to send device end only when a cancel comes during BUSY status. The cancel operation will be deferred to following process.

Pervasive: No

Ref: 81141

Serious: Detailed database snapshot information missing for analysis when required for upgrade failure

Dev fix description: Enable additional database monitor switches during activation process to increase detail in logs.

Pervasive: No

Ref: 81047

Serious: Mount pending for EKM communication (problem not understood)

Dev fix description: add logging for error condition observed

Pervasive: No

Ref: 80609

Serious: DB2 write to system hard drive fails; drive not failed (cluster restart required)

Dev fix description: Add code logic to monitor DB2 log for failure and provide additional diagnostics for service

Pervasive: No

Ref: 79006

Serious: Unjoin of cluster delayed from DB2 background reorg running simultaneously (extended outage)

Dev fix description: Pause background DB reorg process during unjoin

Pervasive: No

Ref: 78582

Serious: FICON adapter restart after host cancel CCW

Dev fix description: Code logic error

Pervasive: No

Ref: 79796

Serious: Replacement of system board extended from code logic error (extended service window)

Dev fix description: Correct the code logic in system replacement procedure

Pervasive: No

Ref: 79606 (also fixed in vtd_exec.256 v. 1.01)

Serious: During code activation a hardware problem made system hard disks unusable (extended service window)

Dev fix description: Improve logic to identify need for support for hardware problem on hard disks during code load/activation

Pervasive: No

Ref: 77612

Moderate: Cache controller firmware did not get upgraded during code load (extended outage) or detect failure
Dev fix description: Code logic changed to prevent the failure
Pervasive: **Yes**
Ref: 80442

Moderate: LUM mount with undefined construct does not use default (8.33 and above)
Dev fix description: Code logic changed to remove unexpected result of previous fix added in 8.33 code
Pervasive: No
Ref: 81549

Moderate: FFFF can't be set as a target category of LI REQ
Dev fix description: Code logic changed to allow to set 0xFFFF to be set as a target category
Pervasive: No
Ref: 81535

Moderate: Intervention required persisted after an online transition when no intervention existed
Dev fix description: Change Database manager code logic to prevent inappropriate setting of Intv. Req'd
Pervasive: No
Ref: 81139

Moderate: Copy export stalled from having volume set to ReadOnly
Dev fix description: Change code logic to prevent copy export stall
Pervasive: No
Ref: 80973

Moderate: FICON throughput incorrectly limited by feature code
Dev fix description: Correct code logic to limit adapter throughput as designed for FC 3438 and 3439.
Pervasive: No
Ref: 80793 (also fixed in vtd_exec.224 v1.02)

Moderate: Recalls from physical volume failed following library error
Dev fix description: Code logic change to collect more data (issue was not understood)
Pervasive: No
Ref: 80738

Moderate: Log file caused cluster to fail to go online after code upgrade
Dev fix description: Code logic change to prevent excessive log growth
Pervasive: No
Ref: 80388 (also fixed in vtd_exec.240 v. 1.02+)

Moderate: Logical volumes assigned to incorrect partition at code upgrade
Dev fix description: Put all resident logical volumes in partition 0 during code update
Pervasive: No
Ref: 80249 (also fixed in vtd_exec.248 v.1.01)

Moderate: Code update (R3.2) increased TCPIP retransmission rate increase
Dev fix description: TCPIP performance improved with change to setting
Pervasive: No
Ref: 79384

Moderate: System checkout stalled

Dev fix description: Code logic change to prevent stalling of regular process (checkout)

Pervasive: No

Ref: 78406 (also fixed in vtd_exec.103 v. 1.52+)

Moderate: Library related information is missing from VEHSTATS records

Dev fix description: Code logic changed to parse the 3584 information correctly

Pervasive: No

Ref: 78320

Moderate: CBR message for deferred mode rather than immediate mode copy

Dev fix description: Logic change in grid code to prevent copy cancellation of immediate mode copy

Pervasive: **Yes**

Ref: 78258

Moderate: Host mount fails when ACS routines do not specify data class for LUM

Dev fix description: Correct code logic to process host mount (LUM) for specific flash copy conditions

Pervasive: No

Ref: 77169

Moderate: Copy Export failed (conflict between Copy Export, Delete Expire and Offsite Reclaim)

Dev fix description: Logic change to prevent reclaim from conflicting with other processes

Pervasive: No

Ref: 76434

Moderate: System checkout network thresholds are not persistent through code upgrades

Dev fix description: Code logic changed to preserve the network thresholds

Pervasive: No

Ref: 73803 (also fixed in vtd_exec.256 v. 1.00+)

Service: Cache controller firmware identifies battery failure incorrectly

Dev. fix description: Update cache controller firmware to 08.20.18.00

Pervasive: **Yes**

Ref: 81119

Service: Permissions incorrect to allow command to complete setting time on controller

Dev fix description: Change smit panel to use admin role

Pervasive: **Yes**

Ref: 80885

Service: Database restore process hung and prevented merge process between grids (service window exceeded)

Dev fix description: Added a pre-check to compare the database size against the free space in the filesystem.

Pervasive: No

Ref: 81266

Service: Checkout points to the wrong cache string (always base string)

Dev fix description: Logic in code changed to identify the correct string, enclosure and slot

Pervasive: Yes

Ref: 80330 (also fixed in vtd_exec.103 v. 1.52+)

Service: Incorrect location for failed DDM specified in service checkout (correct in support data)

Dev. fix description: Correct logic to identify correct string for failed DDM

Pervasive: No

Ref: 80282 (also fixed in vtd_exec.103 v1.52+)

Service: Flags from both frame and server replacement were set; activation hung (extended outage)

Dev fix description: Stop an activate at the beginning of act_finis if both flags are there

Pervasive: No

Ref: 80183

Service: Internal test of slow ddm returns good status when incorrect configuration is present

Dev fix description: Correct code logic to present correct test result

Pervasive: No

Ref: 79410 (also fixed in vtd_exec.256 v. 1.00+)

Service: Activation events improperly classified (CE could not clear)

Dev fix description: correct code to refer to act_go instead of act_finis

Pervasive: No

Ref: 78358

Service: Improve hydradump file gathering script

Dev fix description: code change to include new log collection definitions and modify generic ones to make them specific

Pervasive: No

Ref: 76051

Service: Additional files added to hydradump

Dev fix description: improve data collection (new logs added to code)

Pervasive: No

Ref: 81538

Improvement: Message had incorrect text when queue capacity exceeded

Dev fix description: Message text corrected

Pervasive: No

Ref: 80536

Improvement: New LI REQ to provide timing statistics

Dev fix description: Create LI REQ request to provide Grid-Grid RPC statistics

Pervasive: No

Ref: 80430