

# TS7700 Release Notes - 8.41.201.4 (R4.1 Phase 2 PGA1)

IBM System Storage TS7700

Release Notes for the TS7700 (3957 VEC / VEB / V07)

- EC: M14275 released December 4, 2018

New Function Supported:

- None

## TS7700 CODE REQUIREMENTS

Hydra	8.41.201.4 (EC <b>M14275</b> , PN <b>02FJ958</b> , <b>02FJ959</b> and <b>02FJ960</b> (DVD 1, 2 & 3))
DB2	11.1.0.0 Informational tokens: "DB2 v11.1.0.0", "s1606081100", "DYN1606081100AIX", and Fix Pack "0"
AIX Base Level	7.1.4.30
AIX Fixpack	7100-04-03-1642+04
HV32 Firmware	AL730_152
TS3500 (Anaconda) Firmware	E220
3592 J1A Tape Drive	D3I0_C90
3592 E05 Tape Drive	D3I1_F1F
3592 E06 Tape Drive	D3I2_883
3592 E07 Tape Drive	D3I3_B87
3592 E08 Tape Drive	D3I4_7A9
TSSC	8.5.4 (EC M14175, PN 02CE627 (CD-ROM 1))
TSSC Documentation	(EC M14095 PN 02CE249)
3956-CC7/CS7 Firmware Storage Manager GUI	07.60.63.00 (Included under EC M13368) 11.10.0G05.0023
3956-CC8/CS8 Firmware Storage Manager GUI	07.84.54.00 (Included under EC M13368) 11.10.0G05.0023
3956-CC9/CS9 Firmware Storage Manager GUI	08.20.25.00 (Included under EC M14083) 11.20.0G05.0018
3956-CSA Firmware Storage Manager GUI	08.20.25.00 (Included under EC M14083) 11.20.0G05.0018
TKLM	TKLM v1 FP4 TKLM v2 FP5
ISKLM	2.7.0.2
Atape	12.9.6.0

GPFS	Release 4.2.2.2
SSPC	1.3.1, 1.3.2, 1.5
ITDT	9.0.1.20160222
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
16Gbit Host FICON Firmware	8.0.9
Mandatory VTD EXECs	vtd_exec.298 v1.03.

## **PROBLEM FIXES:**

Problems fixed in this level are described below. There are 167 enhancements/defects fixed in this release; 89 defects occurred or were related to problems in client installations. They are described below with the following designations:

**HIPER** = High Impact & Pervasive

**High Impact** = Loss of access or loss of data

**Acute** = An unrecoverable error with potential loss of data

**Serious** = An 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

**High Impact:** High Impact: Logical volumes with corrupted trailers cannot be recovered, mounts fail.

Pervasive: No

Reference: 85571

**High Impact:** Potential data loss occur when TVC cluster has a pending copy and the parallel copy and the data update occurs simultaneously.

Pervasive: No

Reference: 84677

**High Impact:** Virtual tape device hangs requiring a device reset when Sync copy mount fails.

Pervasive: No

Reference: 85651

**High Impact:** A cluster was put in service to perform a cluster renumber, issues encountered with the new IPs - cluster rebooted and host access to online cluster was lost.

Pervasive: No

Reference: 85261

Acute: Cluster will not go on-line after code upgrade when the cluster was set for Flash Copy D/R testing before the code upgrade.

Pervasive: No

Reference: 83089

Acute: Channel adapter device driver (CADD) experiences a lock race condition and causes a dead lock.

Pervasive: No

Reference: 86255

Acute: Update firmware on cache fibre adapter to latest level.

Pervasive: No

Reference: 85533

Acute: Unreported DDM issues.

Pervasive: No

Reference: 85224

Acute: For a TS7700 with no tape attachment, the physical library's operational state is set to offline. This causes incoming copies in a Grid to not get processed.

Pervasive: YES

Reference: 84910

Acute: Hardware issues may not be recovered from correctly due to a corrupted configuration file.

Pervasive: No

Reference: 81330

Serious: A race condition occurs when collecting adaptor information from an adaptor, an incoming message does not get processed or retried.

Pervasive: No

Reference: 86450

Serious: Ficon panic during I/O.

Pervasive: No

Reference: 86384

Serious: Database reorg hit a lock issue resulting in a cluster reboot.

Pervasive: No

Reference: 86309

Serious: 8Gb FICON adapter failed to write data with FICON-compression.

Pervasive: No

Reference: 85844

Serious: When the TS7700 back end tape drives cannot communicate with the physical tape library for an extended period of time, the TS7700 sometimes cannot automatically recover.

Pervasive: No

Reference: 85730

Serious: 16Gb Ficon adapter code needs to save data pattern which caused DMA compression FIFO error, for failure analysis.

Pervasive: YES

Reference: 85460

Serious: Performing data secure erase on a private volume then attempting to write to that volume results in a corrupted volume.

Pervasive: No

Reference: 85126

Serious: Machine may reboot due to false alarm in new database transaction monitoring algorithm.

Pervasive: No

Reference: 84888

Serious: The TS7700 runs out of system resources causing the system to reboot.

Pervasive: No

Reference: 84822

Serious: Enhanced error handling (EEH) is triggered during TS7700 online because the receiver error bit in PCIX register is enabled.

Pervasive: YES

Reference: 84597

Serious: Channel adaptor device driver (CADD) detects a sequence error and reboots the box.

Pervasive: No

Reference: 84564

Serious: Only secondary copy is recreated (no primary copy is recreated) by read only recovery.

Pervasive: No

Reference: 84436

Serious: Host adapter ficon panic when ficon switch is configured so that it polls RDP (Read Diagnostics Parameter).

Pervasive: No

Reference: 84353

Serious: Cluster reboots when LI REQ OTCNTL operation is initiated.

Pervasive: No

Reference: 86288

Serious: The virtual devices above 256 could not be varied online after frame swap MES with feature code 5275 (Additional Virtual Devices) enabled.

Pervasive: No

Reference: 86196

Serious: Certain database values are not transferred over correctly from the source cluster to the target cluster during a frame swap.

Pervasive: No

Reference: 85940



Serious: CSA cache drawer MES may fail with 4TB and 8TB DDMs configuration.

Pervasive: YES

Reference: 85903

Serious: Tape attached TS7700 experienced a stack overflow resulting in a reboot.

Pervasive: YES

Reference: 85797

Serious: Code activate fails when there are more than 50k records in the grid to grid merge (GGM) table.

Pervasive: No

Reference: 85676

Serious: Prevent enhanced error handling (EEH) after re-boot for ficon host adapters.

Pervasive: No

Reference: 85628

Serious: Grid join pre-check may fail with errors pertaining to NTP configuration.

Pervasive: No

Reference: 85603

Serious: Server disk replacement fails when one of the other server disk shows as missing.

Pervasive: No

Reference: 85319

Serious: On a TS7700 using LDAP, excessive calls to check if http is enabled causes a memory leak.

Pervasive: No

Reference: 85114

Serious: False out of scratch condition when a storage pool with active data has a target reclaim pool that is different than the home pool.

Pervasive: YES

Reference: 85060

Serious: When pre-check fails during an un-join and user abandons the process, the un-join flag is not cleaned up.

Pervasive: No

Reference: 85035

Serious: Activation failed due to database backups being taken while the database backup file system was not mounted.

Pervasive: No

Reference: 84541

Serious: Not all data collected due to incorrect data collection rules.

Pervasive: No

Reference: 84123

Serious: Enhance physical tape error recovery when duplicate tapes are present in the 3584 tape library.

Pervasive: No

Reference: 83944

Serious: TS7700 Cluster in Grid does not become online due to token ownership transfer issues.

Pervasive: No

Reference: 83933

Serious: Ran out of dynamic memory allocations (DMA) contexts in host busy situation resulting in reboot

Pervasive: No

Reference: 83364

Serious: LDAP port was not configured causing system check to report Degraded status.

Pervasive: No

Reference: 82372

Serious: Data collection should collect all vtd\_exec logs regardless when they were created.

Pervasive: No

Reference: 82237

Serious: When a cluster is removed from grid, depending how busy the rest of grid is, there is a rare timing window where VPD information exchange among the rest of remaining cluster may not be sequential.

Pervasive: No

Reference: 81992

Serious: Ficon host adapter code panic resulting in job abends.

Pervasive: No

Reference: 81305

Serious: Database table synchronization in grid fails to delete temporary files.

Pervasive: No

Reference: 80830

Moderate: System check reports degraded when grid links and gateway share the same subnet.

Pervasive: No

Reference: 84338

Moderate: 16Gb Ficon adapter code panic resulting in job abends.

Pervasive: No

Reference: 85606

Moderate: Sick-but-not-dead algorithm introduced in 8.412 may locally fence a cluster if there is a database time-out involving a volume that contains D401 in the label.

Pervasive: No

Reference: 84931

Moderate: Background token merge threads get stuck due to network hiccups which can result in stuck copies because hot tokens are not resolved.

Pervasive: YES

Reference: 84930

Moderate: Transport Layer Security (TLS) 1.2 with sp800 transition mode is failing the SSL handshake causing Management Interface to be unusable.

Pervasive: No

Reference: 84029

Moderate: Copies delayed for 16 hours, suspect cache issue need first time data capture.

Pervasive: No

Reference: 86648

Moderate: After the join, Grid Copy to joined cluster invoked by COPYRFSH can get stuck.

Pervasive: No

Reference: 86424

Moderate: Logical volumes on cache file system are not migrated to tape.

Pervasive: No

Reference: 86163

Moderate: Ficon host adapter panic followed by adaptor reset resulted in adaptor getting re-initialized with an incorrect setting.

Pervasive: No

Reference: 85554

Moderate: When customer uses logical volume with size too small to contain all the records in a database with millions of logical volumes, the BVIR Volume Status request specifying all records to be returned will result in a file handle leak.

Pervasive: No

Reference: 85236

Moderate: When doing a frame swap MES, Feature Code 5274 (Enable 1TB Tape Capacity) is not counted correctly, leading to incorrect pmthlvl and pmprior values.

Pervasive: No

Reference: 84507

Moderate: LI REQ OTCNTL operation cannot be stopped.

Pervasive: No

Reference: 84423

Moderate: A file handle leak in database directory cleanup code will cause various database operations to fail.

Pervasive: No

Reference: 86628

Moderate: Various database changes performed during a join/merge may lead to volume ownership issues or stuck copies after issuing a copy refresh.

Pervasive: No

Reference: 86496

Moderate: Unexpected ownership change occurred after LI REQ COPYRFSH completes.

Pervasive: No

Reference: 86222

Moderate: User program receives unexpected wrong result from TS7700 16Gb FICON host adapter for Read Buffer Log command to a tape device. i.e. Failure on Read Buffer Log command to the tape device.

Pervasive: No

Reference: 86210

Moderate: Admin user name in the Management Interface gets repopulated after a code upgrade despite being previously deleted.

Pervasive: No

Reference: 86139

Moderate: If a DDM goes into an unresponsive state, no Management Interface event and host notification is sent out.

Pervasive: No

Reference: 86089

Moderate: Online Reorg doesn't complete, to recover the cluster needs to be rebooted.

Pervasive: No

Reference: 85753

Moderate: Copy Export Recovery/Copy Export Merge may fail on clusters with 8.41.200.63 and higher.

Pervasive: No

Reference: 85462

Moderate: AOTM system check gets alerted because TSSC code level is older than 8.4.4

Pervasive: No

Reference: 85346

Moderate: Management Interface cache throttle reported incorrectly.

Pervasive: No

Reference: 85277

Moderate: Provide capability for service to collect dump data from all clusters in a grid from a single cluster.

Pervasive: No

Reference: 85183

Moderate: When pre-check fails during an un-join and user abandons the process, the un-join flag is not cleaned up

Pervasive: No

Reference: 85076

Moderate: Reading previous format logical volume will update database to latest level.

Pervasive: No

Reference: 84937

Moderate: Used an old mechanism to create SSL connections which could cause connectivity errors under certain circumstances.

Pervasive: No

Reference: 84497

Moderate: Active task status is not replicated across the grid resulting in a task to be left open.

Pervasive: No

Reference: 84447

Moderate: System check shows FAILED message for NTP server when cluster is offline or in service mode

Pervasive: No

Reference: 84282

Moderate: Ficon enhanced error handling (EEH) causes system to go down until power drain.

Pervasive: No

Reference: 83696

Moderate: TS7700 may report DR setup error to host due to VPD errors, enhance VPD to prevent errors.

Pervasive: No

Reference: 82157

Moderate: Li Req STATUS,GRID on pre R4.0 cluster does not show status from R4.0 or later clusters.

Pervasive: YES

Reference: 81585

Moderate: Copy export merge should fail immediately if not run on the lowest level cluster in the grid.

Pervasive: No

Reference: 80129

Moderate: Under poor network conditions, WAN test can appear to "hang" because it takes a long time to complete

Pervasive: No

Reference: 68197



Service: Enhance/clarify host message when Physical Volume reaches or crosses End of Life threshold.

Pervasive: No

Reference: 86371

Service: If using LDAP there is no way to login into the box locally.

Pervasive: No

Reference: 85249

Service: Incorrect physical tape drive location displayed when attached to 3584 tape library.

Pervasive: No

Reference: 84443

Service: Process for a tape attached system being monitored under disk only systems.

Pervasive: No

Reference: 84884

Service: Grid could not access some volumes for about 30 minutes due to internal error.

Pervasive: No

Reference: 82421

Improvement: Core dump for TS7700 Removable Media Manager process occurred and the dump file was not collected by Call Home.

Pervasive: No

Reference: 85645

Improvement: Need more information gathered when a machine reboots to better understand root cause.

Pervasive: No

Reference: 84679

Improvement: Modify log collection to collect shutdown logs.

Pervasive: No

Reference: 82948

Improvement: Added additional logging during merge/join needed for failure analysis.

Pervasive: No

Reference: 82153

Improvement: Collect additional information with call home data.

Pervasive: No

Reference: 84689

Improvement: Sessions are being left active by TSSC when users do not exit gracefully.

Pervasive: No

Reference: 82358