TS7700 Release Notes - 8.42.0.71 (R4.2)

IBM System Storage TS7700

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

- EC: M14218 released September 7, 2018

New Function Supported:
- **Tier To Cloud**

TS7700 CODE REQUIREMENTS

Hydra	8.42.0.71 (EC M14218, PN 02PY215, 02PY216, 02PY217 (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	7.2.2.0
AIX Fixpack	7200-02-01-1731+04
P8 Server Firmware	FW860.20
DIMM 32 GB	PPN = 00LP777 for FC 3466 will release in EC M14214A, FRU 00VK192
TCT	Version=1.1.5.1, RPM_BuildNumber=20
Cloud Support	IBM Cloud Object Storage System (COS) appliance solution Version 3.13.1 April Maintenance Release (Storage_COSS_3.13.1.34) S3 Protocol
	AWS, S3 Protocol
TS4500 (Anaconda) Firmware	1413-I00
TS3500 (Anaconda) Firmware	G060
3592 J1A Tape Drive 3592 E05 Tape Drive 3592 E06 Tape Drive 3592 E07 Tape Drive 3592 E08 Tape Drive	D3I0_C90 D3I1_F1F D3I2_883 D3I3_C84 D3I4_88C
TSSC	8.5.5
3956-CC9/CS9/CSA Firmware Storage Manager GUI	08.30.50.00 11.30.6528.0 - 02PY212 - CDRom TSSC Storage Manager GUI v11.30.0A05.0028 for Hydra 64-bit Source
ISKLM	2.6.0.0
Atape	13.0.24.0
GPFS	GPFS Release 5.0.1 efix g501p0e6
ITDT	9.0.1.20160222
AIX Diagnostics CD	V7.2.0.0
16Gbit Cisco Switch Firmware	BIOS level 2.1.17

	Kickstart software level 6.2(9)
	System software level 6.2(9)
Mandatory VTD EXECs	N/A

Platform Requirements Matrix

Test	Software Level
zOS	V2R3
zTPF	1.1
zVM	6.3, 6,4
zVSE	5.2, 6.1, 6.2

Switch and Channel Extender Support Matrix

Product Vendor and Model	Product Levels of Microcode tested	TS7700 levels of microcode tested
Brocade DCX IBM 2499-384 (SAN768B) Nortel 10Gb/sec MOTR card supported End of Support: 11/14/2019	7.4.1b, 7.4.1d, 7.4.2a,7.4.2a1	8.42.0.71
Brocade DCX-4S IBM 2499-192 (SAN384B) Nortel 10Gb/sec MOTR card supported End of Support: 11/14/2019	7.4.1b, 7.4.1d, 7.4.2a,7.4.2a1	8.42.0.71
Brocade 8510-8 IBM 2499-816 (SAN768B-2) Brocade 8510-4 IBM 2499-416 (SAN384B-2)	7.4.1b, 7.4.1d, 7.4.2a, 7.4.2a1, 8.0.1b, 8.0.2b, 8.0.2b2, 8.1.0c, 8.1.2a, 8.2.0a	8.42.0.71

Brocade 7800 IBM 2498-R06 (SAN06B-R) Brocade 6510	7.4.1b, 7.4.1d	8.42.0.71
IBM 2498-F48 8, 16 GB/sec (SAN48B-5)	7.4.1b, 7.4.1d, 7.4.2a, 7.4.2a1, 8.0.1b, 8.0.2b, 8.0.2b2, 8.1.0c, 8.1.2a, 8.2.0a	8.42.0.71
Brocade 7840 IBM 2498-R42 (SAN42B-R)	7.4.1b, 7.4.1d, 7.4.2a, 7.4.2a1, 8.0.1b, 8.0.2b, 8.0.2b2, 8.1.0c, 8.1.2a, 8.2.0a	8.42.0.71
Brocade X6-4 IBM 8961-F0 (SAN256B-6) Brocade X6-8 IBM 8961-F08 (SAN 512B-6)	8.0.1b, 8.0.2b, 8.0.2b2,8.1.0c, 8.1.2a, 8.2.0a	8.42.0.71
Cisco MDS9506 IBM 2062-D04 IBM 2054-E04	6.2.11c/6.2.11d, 6.2(11e)	8.42.0.71
Cisco MDS9509 IBM 2062-D07 IBM 2054-E07	6.2.11c/6.2.11d, 6.2(11e) 12, 24 & 48 port blades only	8.42.0.71
Cisco MDS9513 IBM 2062-E11 IBM 2054-E11	6.2.11c/6.2.11d, 6.2(11e) 12, 24 & 48 port blades only	8.42.0.71

Cisco MDS9222i	6.2.11c/6.2.11d, 6.2(11e) 12, 24 & 48 port blades only	8.42.0.71
Cisco MDS9250i	6.2.11c/6.2.11d, 6.2(11e), 8.1(1a)	8.42.0.71
Cisco MDS9710	6.2.11c/6.2.11d, 6.2(11e), 8.1(1a) 12, 24 & 48 port blades only	8.42.0.71

PROBLEM FIXES:

Problems fixed in this level are described below. There are 887 enhancements/defects fixed in this release; 69 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: Reading older format volumes causes CRC error to host if all clusters are upgraded to 8.41.200
Pervasive: No
Reference: 84850

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: When LI REQ EXISTDEL setting is configured with the options CRITERIA (ALL) and WHEN (AUTO), EXISTDEL could delete the last consistent copy in the Grid unexpectedly.
Pervasive: No
Reference: 84488

Acute: Channel adapter device driver (CADD) experiences a lock race condition and causes a dead lock.
Pervasive: No
Reference: 86255

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: The cfg_security script does not use the official AIX method to update the inetd.cfg file
Pervasive: No
Reference: 81330

Serious: When the TS7700 back end tape drives cannot communicate with the physical tape library for an extended period of time, the TS7700 attempts to periodically re-establish communication during error recovery processing. When the physical tape library returns to a healthy state, the TS7700 sometimes cannot automatically recover because db2start fails persistently until the TS7700 is rebooted.
Pervasive: No
Reference: 85730

Serious: 16Gb adapter code needs to save data pattern which caused DMA compression FIFO error, for failure analysis.
Pervasive: YES
Reference: 85460

Serious: Performing DSE followed by writes on scratch volume moved to private results in corrupted logical volume.
Pervasive: No
Reference: 85126

Serious: Mounts can be left pending at the host forever.
Pervasive: No
Reference: 85083

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: Empty private volume may fail the mount when service-prep is in progress or a cluster which has the ownership is in service (or unavailable).
Pervasive: No
Reference: 84767

Serious: Private LVOLs written from BOT on 4.1.2 cluster cannot be read by another cluster at a lower code level when LVOL previously had data on it.
Pervasive: No
Reference: 84602

Serious: Changing data class of volumes existing before 4.1.2 code level to new compression method (LZ4 or ZSTD) causes logical volumes to be unreadable.
Pervasive: No
Reference: 84588

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: Ficon adapter unable to recover from adapter panic
Pervasive: No
Reference: 84354

Serious: Ficon panic when ficon switch is configured so that it polls RDP (Read Diagnostics Parameter).
Pervasive: No
Reference: 84353

Serious: Grid join precheck may fail with errors pertaining to NTP configuration.
Pervasive: No
Reference: 85906

Serious: Disk query will fail if a system with more than 10 drawers and mixed TB is found
Pervasive: No
Reference: 85903

Serious: On tape attached box 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 GGM table during hdb_dbimport.
Pervasive: No
Reference: 85676

Serious: Grid join precheck may fail with errors pertaining to NTP configuration.
Pervasive: No
Reference: 85603

Serious: On a TS7700 using LDAP, excessive calls to check if http is enabled causes a memory leak
Pervasive: No
Reference: 85114

Serious: When a storage pool with active data has a target reclaim pool that is different than the home pool, every six hours, there is a physical volume check that causes a file handle to be left opened before the file gets deleted. This causes a slow file handle leak that eventually leads to the database component not being able to open any more files, which leads to the false out of scratch condition.
Pervasive: YES
Reference: 85060

Serious: Join restart failed because the grid was modified prior to restarting the join.
Pervasive: No
Reference: 85035

Serious: Writing large volumes with a dataclass that has Surface EOT set for 3490 Counters Handling will induce a 7084 error to be reported, causing a job abend.
Pervasive: YES
Reference: 85007

Serious: Data collection rules not defined correctly and data not collected.
Pervasive: No
Reference: 84123

Serious: Ran out of dynamic memory allocations (DMA) contexts in host busy situation resulting in reboot
Pervasive: No
Reference: 83364

Serious: When Flash Copy/Write Protect operation takes long for more than 4 minutes internally, LI REQ command from the host times out and fails.
Pervasive: YES
Reference: 83067

Serious: LDAP port was not configured and System Check reports Degraded status
Pervasive: No
Reference: 82372

Serious: Data collection should collect all 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 tiny timing window where vpd info exchange among the rest of remaining cluster may not be sequential.
Pervasive: No
Reference: 81992

Serious: Adapter code panic resulting in job abends
Pervasive: No
Reference: 81305

Serious: Database table synchronization in grid leaves around temporary files.
Pervasive: No
Reference: 80830

Moderate: System check reports degraded when grid links and gateway sharing the same subnet
Pervasive: No
Reference: 84338

Moderate: Adapter firmware goes into panic.
Pervasive: No
Reference: 85606

Moderate: Background token merge threads get stuck due to network hiccups. Can result in stuck copies because hot tokens are not resolved.
Pervasive: YES
Reference: 84930

Moderate: When Flash Copy Disable command is issued and one of DR family member still mounts a volume, the command fails and the subsequent Flash Copy Disable command all hang until the cluster is rebooted.
Pervasive: No
Reference: 83879

Moderate: Transport Layer Security (TLS) 1.2 with sp800 transition mode is failing the ssl handshake and MI unusable.
Pervasive: No
Reference: 84029

Moderate: Ficon panic followed by adaptor reset resulted in adaptor getting re-initialized with an incorrect setting
Pervasive: No
Reference: 85554

Moderate: When the customer uses a logical volume with a maximum size that is too small to contain all the records in a huge database with millions of logical volumes, the BVIR Volume Status request specifying all records (parameter "_____") to be returned will result in a file handle leak.
Pervasive: No
Reference: 85236

Moderate: All of reply worker threads of DMDP were hung for more than 16 hours. After 16 hours elapsed, they resumed working. This caused total data size in copy queue grew.
Pervasive: No
Reference: 82550

Moderate: Incorrect task message is displayed when a cloud configuration is updated while cloud premigration is running on another cluster in the same Grid.
Pervasive: No
Reference: 86078

Moderate: It is a race condition. After the logical volume to cloud record is deleted, the record could be incorrectly re-created because of stale notification from one or more remote clusters.
Pervasive: No
Reference: 86075

Moderate: Copy Export Recovery/Copy Export Merge may fail on 8.41.200.63 or above
Pervasive: No
Reference: 85462

Moderate: AOTM check gets alerted because TSSC code level is older than 8.4.4
Pervasive: No
Reference: 85346

Moderate: Cache throttle reported incorrectly
Pervasive: No
Reference: 85277

Moderate: Provide capability 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 unjoin and user abandons the process, the unjoin 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: System Check shows FAILED msg for NTP server when cluster is into offline or service mode
Pervasive: No
Reference: 84282

Moderate: Ficon1 enhanced error handling (EEH) causes system to go down until power drain.
Pervasive: No
Reference: 83696

Moderate: Machine may report DR setup error to host.
Pervasive: No
Reference: 82157

Moderate: Column "Size/MiB Used" in "Damaged Virtual Volume Details" page shows 0 when the volser have less than 1 MB of data
Pervasive: No
Reference: 81756

Moderate: Under poor network conditions, vtd_wantest can appear to "hang" because it takes a long time to complete
Pervasive: No
Reference: 68197

Service: A library dependency missing in a script is causing that the log in into the LDAP server via command line is not working, so SSR can't get into the box
Pervasive: No
Reference: 85249

Improvement: Event description mis-spelled scratch
Pervasive: No
Reference: 85560

Improvement: Customer had issues searching Knowledge Center for read only recovery (ROR)
Pervasive: No
Reference: 84757

Improvement: Modify log collection to collect shutdown logs
Pervasive: No
Reference: 82948

Improvement: Additional logging during merge/join needed for failure analysis
Pervasive: No
Reference: 82153

Improvement: Add database reorg information to Knowledge Center
Pervasive: No
Reference: 85807

Improvement: Collect additional information with call home data
Pervasive: No
Reference: 84689

Improvement: There is no method to re-label a physical tape when the external and internal labels do not match.
Pervasive: No
Reference: 84496

Improvement: Sessions are being left active by TSSC when users do not exit gracefully.
Pervasive: No
Reference: 82358