

# TS7700 Release Notes - 8.52.200.111 (R5.2 Phase 2)

IBM System Storage TS7700

Release Notes for the TS7700 (3957 VED / VEC)

- EC: P25342 released December 17, 2021

**New Function Supported:**

- **Security Enhancements**
- **EKM Enhancements**
- **DS8000 Object Store Replication**

## TS7700 CODE REQUIREMENTS

TS7700	8.52.200.111 (EC P25342, PN 02XX979, PN 02XX980, PN 02XX981, PN 02XX982 (DVD 1, 2, 3 & 4))
DB2	DB2 v11.5.5.1 Informational tokens are "DB2 v11.5.5.1", "s2103171200", "DYN2103171200AIX", and Fix Pack "1"
AIX Base Level	AIX 7.2.5.0
AIX Fixpack	AIX Fix Pack 7200-05-01-2038
P9 Server Firmware	FW950.00 (VL950_045)
P8 Server Firmware	FW860.90 (SV860_226)
TCT	Version= 1.1.8-1281
Cloud Support	IBM Cloud Object Storage System (COS) appliance solution Version 3.15.7.43 April Maintenance Release (Storage_COSS_3.15.7.43) / S3 Protocol AWS, S3 Protocol
TS4500 (Anaconda) Firmware	1801-C00
TS3500 (Anaconda) Firmware	H010
3592 E07 Tape Drive 3592 E08 Tape Drive	D3I3_DCB D3I4_B12
TSSC	9.2.14
3956-CSB (2072-312 V5030E) 3956-CFC (2072-3N4 V5035E) Firmware	8.4.0.5

HDD (3956-CSB / 3956-XSB)	Seagate Evans Non-SED 7200 rpm, 3.5 inch, 10TB, SAS 12Gb/s 4Kn / FW BCL4
	Seagate Tatsu Non-SED 7200 rpm, 3.5 inch, 10TB, SAS 12Gb/s 4Kn / FW lvl BCGD
	Seagate Mobula Non-SED 7200 rpm, 3.5 inch, 10TB, SAS 12Gb/s 4Kn / FW lvl BCHC
	Seagate ST10000NM015G EvansBP Non-SED (Nearline), 7200 RPM, 3.5 inch, 10TB, SAS 12Gb/s 4Kn / FW lvl KCP3
SSD (3956-CFC / 3956-XFC)	Samsung 1643A SSD tier1_flash, 2.5 inch, 3.84TB, SAS 12Gb/s / FW lvl MS73
3956-CSA Firmware	08.40.60.01
Storage Manager GUI	11.30.0A05.0037 Storage Manager GUI level
GKLM	4.1.1.0
Atape	13.0.45.0
GPFS	GPFS Release 5.1.1.4
ITDT	9.0.1.20160222
AIX Diagnostics CD	Version 7.2
16Gbit Cisco Switch Firmware	BIOS level 2.1.17 Kickstart software level 6.2(9) System software level 6.2(9)
VTD EXECs	

## Platform Test Matrix

Test	Software Level
zOS	V2R5
zTPF	1.1
zVM	6.3, 6.4

zVSE	5.2, 6.1, 6.2
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## Switch and Channel Extender Support Matrix

Product Vendor and Model	Product Levels of Microcode Supported
Brocade 8510-8 IBM 2499-816 (SAN768B-2)	8.2.3a
Brocade 8510-4 IBM 2499-416 (SAN384B-2)	8.2.3a
Brocade 6510 IBM 2498-F48 8, 16 GB/sec (SAN48B-5)	8.2.3a
Brocade 7800 IBM 2498-R06 (SAN06B-R)	8.2.2b
Brocade 7840 IBM 2498-R42 (SAN42B-R)	8.2.3a
Brocade X6-8 IBM 8961-F08 (SAN512B-6)	9.0.1c
Brocade X6-4 IBM 8961-F0 (SAN256B-6)	9.0.1c

Brocade 620 IBM 8960-F64 8960-N64 SAN64B-6	9.0.1c
Brocade X7-8 IBM 8961-F78 (SAN512B-7)	9.0.1c
Brocade X7-4 IBM 8961-F74 (SAN256B-7)	9.0.1c
Brocade G720 IBM 8960-R64/8960-P64 (SAN64B-7)	9.0.1c
Cisco MDS9250i IBM 8977-R50 (SAN50C-R)	8.5(1)
Cisco MDS9710 IBM 8978-E08 (SAN384C-6)	8.5(1)
Cisco MDS9706 IBM 8978-E04 (SAN192C-6)	8.4(2b)

## **PROBLEM FIXES:**

Problems fixed in this level are described below. There are 1012 enhancements/defects fixed in this release; 99 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:** If any file system is above 95% usage do not allow the TS7700 to go online.

Pervasive: No

Reference: 91270

**Acute:** Security: Authentication issue when using local proxy

Pervasive: YES

Reference: 91991



Serious: Grid Flash Copy: Flash copy failed when lvols in mount pending

Pervasive: No

Reference: 92699

Serious: Grid Tape Attach: Memory leak in code that tracks volumes in cache.

Pervasive: No

Reference: 92355

Serious: Grid: Memory leak when opening files

Pervasive: No

Reference: 92214

Serious: Grid: Timing issues due to incorrect sequencing when calling secure socket layer (SSL) library routines

Pervasive: No

Reference: 91801

Serious: Grid: Timing issues due to incorrect sequencing when calling secure socket layer (SSL) library routines

Pervasive: No

Reference: 91741

Serious: Grid: Mounts failed after updating Selective Device Access Control (SDAC) licenses

Pervasive: No

Reference: 91545

Serious: RAS: Fix Cache script to avoid executing I/O intensive mmdf command which is unnecessary.

Pervasive: No

Reference: 91464

Serious: RAS: Incorrectly fenced a cluster due to a lost cache path when it successfully switched to the secondary path

Pervasive: No

Reference: 91001

Serious: Grid Tape Attach: When there is a tape library hardware problem, the TS7700 could take awhile to go into the force pause mode to direct host workloads to other clusters.

Pervasive: No

Reference: 90822

Serious: LWORM: Incorrectly reporting write errors when appending LWORM logical volumes.

Pervasive: No

Reference: 89644

Serious: Grid: Improvement for copy performance.

Pervasive: No

Reference: 89599

Serious: Grid: Memory leak when network errors occur

Pervasive: No

Reference: 84951

Serious: RAS: Upgrade local disk firmware fails

Pervasive: No

Reference: 92894

Serious: Management Interface: Issue updating category expiration time

Pervasive: No

Reference: 92597

Serious: RAS: Need more context of what an MDE 8101 error indicates

Pervasive: No

Reference: 92534

Serious: Host IO: AIX panic when an uninitialized tape device was accessed

Pervasive: No

Reference: 92341

Serious: RAS: On CSA cache, the parser that checks for errors is creating logs so big that it is filling up the hydlog directory

Pervasive: YES

Reference: 92228

Serious: Grid: System ran out of memory and trapped.

Pervasive: No

Reference: 92227

Serious: Grid Tape Attach: Code bug when multiple physical volume reclamations are in process and a logical volume is recalled from one of those tapes. This results in a cluster rebooting

Pervasive: YES

Reference: 92164

Serious: Frame Swap: Code missing to backup to DVD RAM

Pervasive: No

Reference: 92122

Serious: RAS: System checkout not detecting when a filesystem is unmounted

Pervasive: No

Reference: 91744

Serious: Grid: Filesystem became unmounted and we failed to fence the cluster resulting in failed mounts

Pervasive: No

Reference: 91740

Serious: RAS: Remove/Replace fix for server internal disk in 3957-VEC.

Pervasive: YES

Reference: 91670

Serious: Cluster Renumber MES: Improve restart on a cluster renumber failure

Pervasive: No

Reference: 91641

Serious: Security: Enhance security with LDAP user information

Pervasive: No

Reference: 91586

Serious: Add support for more server disk drives to VTD\_EXEC.365 - VEC/VED server disk drive firmware updates.

Pervasive: No

Reference: 91570

Serious: RAS: Allow 10GB Grid Ethernet Adapter remove/replace while online.

Pervasive: No

Reference: 91405

Serious: Grid: Cluster un-join falsely marking consistent volumes 'damaged'.

Pervasive: No

Reference: 91354

Serious: RAS: Enhance remove/replace for 10Gb Grid Adapter.

Pervasive: No

Reference: 91263

Serious: RAS: Call Home code is calling out a DDM that had just been replaced.

Pervasive: No

Reference: 91262

Serious: After code upgrade on a 5282-Enabled cluster, the object partition was not correctly identified.

Pervasive: No

Reference: 91240

Serious: Security: Authentication issues when using local proxy

Pervasive: No

Reference: 91230

Serious: RAS: Improve server hard disk replacement to handle un-mirrored condition.

Pervasive: No

Reference: 91225

Serious: RAS: Show Encryption Settings does not display IPP/TLS Port.

Pervasive: No

Reference: 91206

Serious: RAS: Failed to report CSB Cache DDM went offline, add First Time Data Capture logging.

Pervasive: No

Reference: 91196

Serious: Grid Tape Attach MES: Volumes written to a cluster after a Tape Attach MES was performed were written to the wrong pool

Pervasive: No

Reference: 91162

Serious: RAS: Collect additional service logs for data capture.

Pervasive: No

Reference: 90906

Serious: RAS: Enhance remove/replace scripts for Fibre Adapter.

Pervasive: No

Reference: 90905

Serious: RAS: After a cluster fenced and rebooted, the status checking was locked out

Pervasive: No

Reference: 90774

Serious: RAS: Do not restore previously deleted Management Interface user account after code update.

Pervasive: No

Reference: 90691

Serious: RAS: New FW level for CSB / CFC cache model to obtain latest fixes.

Pervasive: No

Reference: 89652

Serious: Grid: Reboot of a cluster in service resulted in online cluster going offline to the host

Pervasive: No

Reference: 87654

Moderate: RAS: Timing issue resulted in multiple call home processes running simultaneously and resulted in a memory leak

Pervasive: No

Reference: 91973

Moderate: Database Maintenance: In a failure scenario, online reorg failed to cleanup a flag that blocked cache walk

Pervasive: No

Reference: 92350

Moderate: Grid: Timing issue when closing volumes causes a delay.

Pervasive: No

Reference: 92196

Moderate: Performance: Cache statistics queries from database slow requiring an index update

Pervasive: No

Reference: 92168

Moderate: Performance: Slow return to scratch processing requires a database index change to check LWORM values

Pervasive: YES

Reference: 92147

Moderate: RAS: Fixed issue where disk cache capacity is improperly reported after installing R5.1.

Pervasive: No

Reference: 91267



Moderate: Management Interface: Improvements to the Web Code Updater installation

Pervasive: No

Reference: 92842

Moderate: Performance: DB2 backup checking improvements

Pervasive: No

Reference: 92523

Moderate: Cluster reboot after backward time adjustment

Pervasive: No

Reference: 92281

Moderate: RAS: fcs adapter replacement failed because of a firmware incompatibility

Pervasive: No

Reference: 92190

Moderate: Tape Attach: Add first time data capture for monitoring the physical device daemon - process died

Pervasive: No

Reference: 92117

Moderate: Grid: Local fencing of a cluster not working correctly when box is sick but not dead (SBND)

Pervasive: YES

Reference: 91943

Moderate: RAS: Call home for failed DDM need to include FRU

Pervasive: No

Reference: 91935

Moderate: RAS: vtd\_exec status shows installed when it failed

Pervasive: No

Reference: 91887

Moderate: Grid: Provide new LI REQ knob to choose the old and the new Premig method

Pervasive: No

Reference: 91831

Moderate: RAS: Enhance the cache path checking

Pervasive: No

Reference: 91749

Moderate: Security: Secure Data Transfer certificate validation fails after code load

Pervasive: No

Reference: 91704

Moderate: Security: MI not disabling HTTP in all cases

Pervasive: No

Reference: 91560

Moderate: Slow LDAP access validation due to IPv6 name resolution entry.

Pervasive: No

Reference: 91528

Moderate: Security: Permanently disable SHA1 ciphers

Pervasive: No

Reference: 91509

Moderate: Grid: Fix issue where DR cluster falsely takes ownership of logical volumes.

Pervasive: No

Reference: 91353

Moderate: The TS7700 Management Interface will only show a maximum of 8.79609302 TB of cache space used for an object partition even when usage is more than that.

Pervasive: No

Reference: 91258

Moderate: Panic FOE5(CT\_MLE\_COMPRESSION\_NO\_SBMCB0) happens intermittently.

Pervasive: No

Reference: 91245

Moderate: DS8K Object Store: For TS7700 with DS8000 object store enabled, add support for misconfigured networks.

Pervasive: YES

Reference: 91150

Moderate: Update Customer documentation to add support for Guardium Key Lifecycle Manager (GKLM) for disk and tape encryption.

Pervasive: No

Reference: 91136

Moderate: Security: Can't login when box is offline.

Pervasive: No

Reference: 91060

Moderate: Security: Unable to login to MI when LDAP is enabled locally on one cluster and remote cluster is configured for local policy

Pervasive: YES

Reference: 91006

Moderate: Grid Join: Issues when setting data\_deleted=Y on joining/merging cluster. Inherit value from existing cluster

Pervasive: No

Reference: 89957

Moderate: EKM: Provide a common proxy code binary to be used by all components

Pervasive: No

Reference: 89343

Service: RAS: Disable ping to key servers

Pervasive: No

Reference: 91236

Service: RAS: Old interventions are left on the machine and resurface after a reboot reporting SERIOUS alert.

Pervasive: YES

Reference: 91135

Service: Report TSSC Call Home is in locked state only if more than 1 hour has passed.

Pervasive: No

Reference: 88128

Service: RAS: Improve handling of special characters when parsing log files for cache

Pervasive: No

Reference: 91721

Service: RAS: when hot swapping adapters, add message to show user RC of Aborting procedure & RC of command called.

Pervasive: No

Reference: 91406

Service: Database Maintenance: Fixed issue where online reorg may skip index reorg

Pervasive: No

Reference: 91106

Service: RAS: Fix reporting issue for FCS Adapter, only call home if TX Power does not match specification.

Pervasive: No

Reference: 91085

Service: Security: Fixed issue resulting in SSL certificate validation failure when using client CA certificate

Pervasive: No

Reference: 91930

Service: RAS: Security check improvements

Pervasive: No

Reference: 89138

Improvement: Documentation: Additional help for LDAP security

Pervasive: No

Reference: 91950

Improvement: Documentation: Customer Knowledge Center general corrections

Pervasive: No

Reference: 91750

Improvement: Documentation: Document MDE55B9 error code

Pervasive: No

Reference: 91706

Improvement: VEC/VED server disk drive firmware updates fail for disk drives with alphanumeric firmware levels.

Pervasive: No

Reference: 91601

Improvement: Update customer documentation for All Compatible Devices setting located in Physical Volume Pool Properties web page.

Pervasive: No

Reference: 91529

Improvement: RAS: After installing FC 5282 (disk encryption) FIPS compliance was registering as N

Pervasive: No

Reference: 91990

Improvement: RAS: Add more Cache DDM attributes to MRPD.

Pervasive: No

Reference: 91118

Improvement: RAS: First time install (FTI) disable the lights on cache enclosures after a failure

Pervasive: No

Reference: 92120

Improvement: RAS: Automatically clear TS7700 MI Events for key server errors 0xEE31 and 0xEE32 when condition is corrected

Pervasive: No

Reference: 91745

Improvement: RAS: Add RPM speed of DDM drives to MRPD.

Pervasive: No

Reference: 91619

Improvement: Grid Merge/Join: Merge/Join does not work with single-Use LDAP Authentication

Pervasive: No

Reference: 91402

Improvement: Provide capability to fence multiple clusters at a time from Management Interface.

Pervasive: No

Reference: 90895



Improvement: Grid Join: Issues when setting data\_deleted='Y' on joining/merging cluster for volumes in 0xFF00.  
Inherit value from existing cluster'

Pervasive: No

Reference: 89506

Improvement: Provide capability to fence multiple clusters at a time from Management Interface.

Pervasive: No

Reference: 88667

Improvement: Increase cache configuration logging.

Pervasive: No

Reference: 88081

Improvement: RAS: Add some additional error reporting

Pervasive: YES

Reference: 83706

Improvement: Development: Add capability to disable auto refresh for development use.

Pervasive: No

Reference: 77727