



IBM System Storage with ProtecTIER Software

Release Notes

Version 3.3.1





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Release notes

These release notes are for IBM System Storage with ProtecTIER Software.

Release date 14 March 2013.

Introduction

This document is a reference for installation and contains other useful information about the IBM System Storage TS7650G, TS7610 and TS7620 with ProtecTIER V3.3.1.

Prerequisites

Prerequisites include the following:

- ProtecTIER Manager V3.3.1 must be installed.
- The full package code must already be installed on the system. The installation of this patch on a Linux OS system without the full package code already installed will fail.

Code levels

Code level requirements include the following:

Software	Version
TS7650G Software level	3.3.1
dtcemulex	5233.002
ptlinux	7133.111
ptrepmgr	6133_73

New features and resolved problems

The ProtecTIER introduction and planning guides describe the new features in the release:

IBM System Storage TS7650 ProtecTIER 3.3 Deduplication Appliance and TS7650G Deduplication Gateway Introduction and Planning Guide (3958-AP1 and 3958-DD5) (GA32-0918-06)

Or

IBM System Storage® TS7620 ProtecTIER® 3.3 Deduplication Appliance Express Introduction and Planning Guide (GA32-0913-04)

See the [Additional documentation](#) section of this document for information about how to find these publications.

ProtecTIER Server issues:

Issue ID	Fix ID	Description
18842	81023389, 81024075 51005244	The source repository name was added to the RDD view after replication finished.
20496	81023452	The password of the domain administrator user was hidden.
20057	81023484	The issue experienced when VTFD fails to refresh SNMP parameters when the system is coming up was solved.
20575	81023545	The issue experienced when the Native Replication rate limits changes weren't saved was solved.
20365	81023576	The wrong error message that was generated because of the "h-position" error that was caused as a result of the incorrect state, was solved.
20394	81023478	The core dump issue, that was caused when the cluster management thread wasn't taken down, was solved.
N/A	81023248	The middle term statistics view was improved.
20172	81023751	The SQLite wrapper query buffer size was increased to solve the failures experienced while creating a directory with 241 characters.
20524	81023568	Verification was added to the upgrade menu to get yes/no answers instead of only one symbol.
20094	81023100	The wrong errors received on the console about no free space, while running a service report, were reassigned to the log files.

20127	81023127	The upgrade stuck issue in 3.3, that was caused as a result of the wrong firmware upgrade state, was solved.
18651	81023348	The service report creation issue, experienced when not all of the log files were added, was solved.
20876	81023522	Ganesha core files were added to the collection of a full service report.
20648	81023628	The failures to locate the CDROM during the ProtecTIER package upgrade or installation were solved.
20413	81023476	The external DVD drive issue experienced on the SM2 machines was solved.
19091	81023471	The error message for the RAS properties file updates was changed.
20676	81023653	The Hardware Resources view, in the ProtecTIER Manager GUI, was updated to show the onboard eth ports 0 and 1 for all of the models.
20339	81023570	An update was made to allow the option for automatic replication of the same file following successful manual replication.
20100	81023619	The issue experienced when the manual replication abort occurs, while a clone is running and failed, was fixed.
20672	81024038	The "Used capacity" size was updated to be "0" for a new repository.
N/A	81023695	The Long Term Statistics view was updated to include Dfs delete files statistics.
20344	81023307	The permission management issue that occurred for directories and files in an NFS environment was solved.
N/A	81023116	The files truncate performance for an NFS environment was improved.
20574	81023540	The race condition issue into the Clone mechanism was solved.
20517	81023668	The recovery issue, experienced when the VTL process was killed for any reason, was solved.
20737	81023698	The SNMP mechanism to send an alert about CRC error was updated.
20583	81023548	The clone recovery issue was solved.
20556	81023571	The race condition, that caused replication failures during outgoing replication, was solved.
20479	81023583	The issue of the VTL process taking about 30 minutes to stop was solved.
20791	81023734	Monitoring for potential zero file handles leakage was introduced.

20596	81023560	The backup failures that occurred as a result of the wrong state of the NFS ganesha files were solved.
20554	81023500	The assertion failure experienced during the data unit validation was solved.
20521	81023463	The alert to reflect the fact that all replication triggers may be lost was enhanced.
N/A	81023479	An alert about verification failures of replicated data was added.
19352	81023513	A new Native Replication retry mechanism to solve load balancing issues was created.
20656	81023600	The memory_requirements.xml file, for SM machines with a number of streams for the FSI environment, was updated.
20783	81023715	The issue experienced when an upgrade from 3.2.X to 3.3.X failed was solved.
20788	81023753	The issue experienced when the replication of a temporary clone directory failed was solved.
N/A	81023778	The columns in the long term statistics file for all applications (VTL, OST, FSI) was updated.
N/A	81023356, 81024068	The FSI read performance was improved to target: DD5 : 700 MB/sec; SM2: 300 MB/sec.
20355	81023387, 81024077	The failed to restore network configuration issue experienced during an upgrade was solved.
20556, 20667	81023506	The issue of the wrong ganesha state causing backup and replication performance degradation was solved.
19983	81023610	The out of resources issue, that was caused as a result of killing the ganesha during I/O , was solved
N/A	81023781	The FSI Gabridge collector information messages were updated to show the process ID number.
20252	81024116	The ganesha rpms was updated to version "1.5.0-ptv3.3.1_rev_3" version was updated to solve a few segment faults issues.
20733	81023782	The issue experienced when ProtecTIER error handling was sent to the backup application while reading a file with an incorrect crc error was solved.
20804	81024116	The logrotate mechanism that was causing message errors in ganesha was solved.
20818	81023789	The issue of the system not allowing backups to continue after the VTL process was killed, in the middle of a backup and upon system restart, was solved.

N/A	81023655	The ddm driver configuration issue was solved.
N/A	81023848	The issue of when the correct DDM was not picked was solved.
20883	81023946	The SM2 capacity expansion issues were solved.
20919	81023948	Messages were added to the log files for monitoring the system if the VTFD process causes failures during long time backup activities.
20799	81023973	The issue experienced when the VTL process fails to start after a code upgrade was solved.
20655	81023865	The issue experienced when the rollback fails after an unsuccessful increase of capacity was solved.
20875	81024050	The SQLITE version was updated to solve the out of memory issue.
20796	81024001	The lock contentions issue, experienced in the FSI environment during replication, was solved.
N/A	81024070	The smb.conf file was updated with a new flag to solve the AC_ACCESS_DENIED issue experienced when trying to access a share from a windows host.
20968	81024067, 81024080	The gfs fsck tool was updated to version 0.1.20-14.el5 .
20921	81024045	The issue of when the GUI shows incoming and outgoing replication with the same icon and same activity direction was solved
20597	81023716	The backup failures issue that was caused as a result of the DRF resource consumption problem was solved.
20973	81024073	The issue of the incorrect last time change value in the GUI was solved.
20949	81024040	The backup failures issue that occurred in the FSI environment was solved by updating the SQL data base interface.
20939	81024081	The folder navigation view was updated to be quicker to respond.
N/A	81024076	The notice traces were changed to the debug level.
20434	81024012	The truncate issue, experienced a few times in the same file, was solved.
20964	81024032	The issue experienced when the FSI default ACLs are not preserved in replication was solved.
20996	81024103	The issue experienced when replication policies cannot be deactivated or deleted was solved.
20997	81024105	The issue of when directories in the RDD may not be in-sync

		following a rename operation was solved.
20998	81024107	The issue experienced when the backlog size for a single file is 0 was solved.
N/A	81024108	The FSI node attributes were updated with rdd hash data.
20915	81024129	The issue of when the GUI Statistics shows the wrong throughput on the backup write graph was solved.
20947	81024016	The issue experienced when a disabled source directory is removed from a policy and does not delete destination content was solved.
20806	81024020	The memory access violation that occurred in the NRM replicator and caused a bug check and system failures was solved.
N/A	81024196	The FSI max file system size was increased to 4PB.
21121	81024463	The issue when grid manager service was down after upgrade is solved.

ProtecTIER driver issues:

Issue ID	Fix ID	Description
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None

ProtecTIER Manager issues:

Issue ID	Fix ID	Description
N/A	51005251	The GUI label version was changed to 3.3.1.
N/A	51005207	Gaps (pixels) were added to a dialog.
20896	51005243	The issue of the last destination modified being displayed, in the replica view of the folder navigation, instead of the last source modified was solved.
21085	51005288	A mistake in the text of GUI view was fixed.
21075	51005289	The issue when machine drop down list was stuck, solved.
N/A	51005198	The 'zoom in/out' option was removed from the statistics view
20811	51005215	A destinations validation action was added when modifying a FSI policy.
20185	51005107	The File System dialog was modified to check the maximum size value against minimum size value.
20490	51005151	The issue of the modify option being disabled after after clicking on enable replication policy was solved.

20525	51005233	The labels in the GUI were changed from MB to MiB (left the calculation by 1024). An addition in the physical nominal pie was also added by the "MB" (1000 division) total value.
18888	51005169	The issue of when the progress bar was sometimes cropped on a long operation panel was fixed.
20773	51005186	The issue of the GUI showing Storage Saving 0% when the Storage Saving goes over 99% was solved.
20630	51005216	The issue of the wrong dedup activities calculations occurring in the GUI was solved.
20895	51005219	The issue of when the dedup calculation was done incorrectly after deleting a part of the data was solved.
N/A	51005185, 81024060	The Physical throughput and Defrag/delete statistics in the middle term statistics output was updated.

Upgrading the ProtecTIER software

Important: For all upgrades or updates, follow the instructions exactly as written, including when to stop and start vtfd and ptcluster services for each node.

For TS7610 or TS7620 Appliance Express systems, use the *IBM System Storage® TS7610 and TS7620 ProtecTIER® v.3.3 Deduplication Appliance Express Software Upgrade Guide (SC27-3641)* and choose one of the following options:

- Upgrading a TS7610 or TS7620 system from v3.2 (Option A)
To upgrade to v3.3.1 from v3.2, follow the procedure described in Chapter 4, "Upgrading the ProtecTIER software to version 3.3 from version 3.2.x" in the *IBM System Storage TS7610 and TS7620 Appliance Express ProtecTIER v. 3.3 Software Upgrade Guide (SC27-3641-04)*.
- Upgrading a TS7610 or TS7620 system from v3.1.8 or higher (Option B)
To upgrade to v3.3.1 from v3.1.8 or above, follow the procedure described in Chapter 5, "Upgrading the ProtecTIER software to version 3.3 from version 3.1.8 or higher" in the *IBM System Storage TS7610 and TS7620 Appliance Express ProtecTIER v.3.3 Software Upgrade Guide (SC27-3641-04)*.
- Upgrading a TS7610 or TS7620 system from v2.4.x, v2.5.x or v3.1.X (any 3.1 version **below** 3.1.8) (Option C)
To upgrade to v3.3.1 from v2.4.x, v2.5.x or v3.1.x (any 3.1 version **below** 3.1.8), follow the procedure described in Chapter 6, "Upgrading ProtecTIER version 2.4 or 2.5 to RedHat 5.6 and version 3.3" in the *IBM System Storage TS7610 and TS7620 Appliance Express ProtecTIER v. 3.3 Software Upgrade Guide (SC27-3641-04)*.
- Updating a TS7610 or TS7620 system already at v3.3 with a fix update or patch (Option D)
Update a system already at v3.3 with a later fix update or patch by using the procedure described in Chapter 7, "Applying fixes to update the ProtecTIER software for version 3.3 and higher" in the *IBM System Storage TS7610 and TS7620 Appliance Express ProtecTIER v. 3.3 Software Upgrade Guide (SC27-3641-04)*.

For TS7650 Appliance or TS7650G (Gateway) systems, use the *IBM System Storage TS7650 ProtecTIER v. 3.3 Software Upgrade Guide (SC27-3643-04)* and choose one of the following options:

- Upgrading a TS7650 or TS7650G system from v3.1.8 or higher (Option A)
To upgrade to v3.3.1 from v3.1.8 or above, follow the procedure described in Chapter 4 (using ProtecTIER Manager) or Chapter 5 (using ProtecTIER Service Menu), "Upgrading the ProtecTIER software to version 3.3 from version 3.1.8 or higher" in the *IBM System Storage TS7650 ProtecTIER v. 3.3 Software Upgrade Guide (SC27-3643-04)*.
- Upgrading a TS7650 or TS7650G system from v2.4.x, v2.5.x or v3.1.X (any 3.1 version **below** 3.1.8) (Option B)

To upgrade to v3.3.1 from v2.4.x, v2.5.x or v3.1.x (any 3.1 version **below** 3.1.8), follow the procedure described in Chapter 6, "Upgrading Red Hat Linux and ProtecTIER for servers before version 3.1.8" in the *IBM System Storage TS7650 ProtecTIER v. 3.3 Software Upgrade Guide* (SC27-3643-04).

- Updating a TS7650 or TS7650G system already at v3.3 with a fix update or patch (Option C)

Update a system already at v3.3 with a later fix update or patch by using the procedure described in Chapter 7, "Applying fixes to update the ProtecTIER software for version 3.3 and higher" in the *IBM System Storage TS7650 ProtecTIER v. 3.3 Software Upgrade Guide* (SC27-3643-04).

Additional documentation

The support homepage contains all relevant documentation.

To access the additional documentation:

- In a web browser, navigate to <http://www-947.ibm.com/support/entry/portal/overview>
- Search for the keyword 'ProtecTIER'

Restrictions and known issues

Restrictions and known issues include the following:

- Before performing any configuration operation, upgrade both nodes to the same patch level.
- Do not move a cartridge from the shelf of the remote repository while it is the target of a replication operation.
- FSI Replication between 3.2.x and 3.3.x repository is supported only from 3.2.2.0 and above.
- The table below represents the maximal number of recommended concurrent streams with FSI Backup and Restore functions. Exceeding these limits may result in performance degradation which under extreme conditions could lead to timeouts in your backup jobs.

The maximum number of recommended concurrent streams is specified as a by product function of the repository configured Meta Data and User Data configuration throughput.

Therefore, this requires careful planning and consideration.

It is recommended that you not exceed this number.

Repository throughput ¹	Number of streams
TS7620 3959-SM2 base ²	20 streams
TS7650(G) - 100-200MB/sec & TS7620 with 1 EXP	40 streams
TS7650(G) - 200-300MB/sec & TS7620 with 2 EXP	64 streams
TS765(G) - 300-450MB/sec	96 streams
TS7650(G) > 450MB/sec	192 streams (max # supported) ³

NOTES:

¹ – Repository supported throughput means that both the required Meta Data and User Data raids are configured to support the desired throughput.

² – No systems (Gateway) should be configured for less than 100MB/sec

³ – For NBU the max # of jobs supported is 128.

Issue ID	Description	Workaround
20390	Decompress Failed Error during restore/replication	In Restore – perform Retry In Replication – Retry will be performed automatically
20431	Following Active Directory Server reboot, ProtecTIER server cannot query users from it	On ProtecTIER Sever run: "service winbind restart"
20590	Fresh install displays some used space in ProtecTIER Manager	If the used space displayed is lower than 2GB then ignore
20678	Memory failures in SM2 might not trigger an alert	N/A
20529	Taking the system out of Service Mode does not change the status	Refresh open problems or wait 20 minutes until it is updated
20288	When deleting NFS folders from ProtecTIER Manager, the NFS Server chache is not updated with the change	On ProtecTIER Sever run: "service nfs-ganesha-pt restart"

Compatability

Compatability requirements include the following:

- ProtecTIER v3.3.1 works with TSSC code level 5.12.8 or later.
- ProtecTIER v3.3.1 requires the use of ProtecTIER Manager v3.3.1.
- ProtecTIER Manager earlier than v3.3.1 is not compatible with ProtecTIER Server v3.3.1. Communication between the two will fail.
- Replication is supported from ProtecTIER v2.4 or later. SMB v2.1 systems are also supported.
- Replication between ProtecTIER v2.3 and ProtecTIER v3.1.8 and above is NOT supported.
- Replication configuration operations require the use of Replication Manager v3.3.1 or later ProtecTIER software.

OpenStorage compatibility:

ProtecTIER Server V3.3.1 is compatible with plug-in 2.5.0.0 and later. OpenStorage plug-in V3.3 is compatible with ProtecTIER Server V2.5.X and later.

Compatibility matrix:

To find the matrix should be taken these steps:

1. Go to <http://www-03.ibm.com/systems/storage/tape/index.html>
2. Scroll down to the heading "Virtual tape systems"
3. Find either TS7650G, or TS7620 and click the relevant link
 - TS7650G = <http://www-03.ibm.com/systems/storage/tape/ts7650g/index.html>
 - TS7620 = <http://www-03.ibm.com/systems/storage/tape/ts7620/index.html>
4. Look for the "Learn more" heading (middle of the page) and click the pdf link for "Independent Software Vendor (ISV) matrix" document.

Documentation format

The publications for this product are in Adobe Portable Document Format (PDF) and should be compliant with accessibility standards.

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