



IBM System Storage with ProtecTIER Software

## Release Notes

Version 3.3.5





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## Release notes

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

**Release date: January 13, 2014.**

## Introduction

This document is a reference for installation and contains other useful information about the IBM System Storage TS7650G, TS7610 and TS7620 with ProtecTIER V3.3.5.

## Prerequisites

Prerequisites include the following:

- ProtecTIER Manager V3.3.5 must be installed.
- The full package code must already be installed on the system. Attempting to install this patch on a Linux OS system without the full package code already installed will result in failure.

## Code levels

Code level requirements include the following:

Software	Version
TS7650G Software level	3.3.5.1
Dtcmulex	5233.005
Ptlinux	7133.143
Ptrepmgr	6133_83

## 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) (GA32-0918-08)*

Or

*IBM System Storage® TS7620 ProtecTIER® 3.3 Deduplication Appliance Express Introduction and Planning Guide (GA32-0913-06)*

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

### New features:

Fix ID	Description
81025767 81025880 51005722	Allows the password of the 'ptadmin' Linux user to be changed without adversely affecting the PT Manager.
81026000 81026031	Introducing the support for FS 820/840 (Flash storage array).
81025949	New Support Tool to map files and offset to Storage LBA.
81025785 81025982 81025851	Enhancing the GUI operation retrieving Active Directory users which now allows the capability to search and identify specific user.

### ProtecTIER Server issues:

Issue ID	Fix ID	Description
21263	81025827	Solves an upgrade issue when processed from the GUI to 3.3.2 version reporting "HTTP server error timeout".
RTC 18354	81025682	Solves an issue where after removing all cartridges and replication policies from a repository, it still had active replication triggers.
17052	81021046	Solves an issue where replication failed while it was supposed to be re-synced as results of deleting cartridges.
15182	81025324	Solves a wrong nominal capacity calculation after cartridge re-labeling/expiration.
21019	81024318	Solves SCSI commands timeout in IBM System i.
15695	81025634	Solves performance degradation issue caused by the parser.
N/A	81025713	Solves an issue of duplicate entries in a damaged STU Btree by adding the ability to have the Check and Recover procedure automatically correct this type of errors (by deleting the conflicts).
18704	81025480	Solves FSI facade recovery test.



21096	81024618 81025732	Adds traces when the cluster management gets a timeout from a service (VTL, VTFD).
RTC 14905	81024823	Solves an issue with invalid RC comparison condition.
RTC 15228	81024922 81025046	Allows VTL core cache flush to disk before reporting cluster management error avoiding truncated vtl cores.
RTC 16203	81025107	Adds new required traces to cluster management process.
RTC 15680	81024983	Eliminates unnecessary cluster management traces.
RTC 16131	81025062	Eliminates unnecessary log error events during cluster creation.
RTC 16198	81025083	Enhances cluster management traces to be more detailed.
21072	81025775	Solves an issue with incorrect expected dedup ratio in the VTD process.
16871	81025641	Issues a notification when a partially incorrect barcodes file is used as input for the dedup estimator tool.
N/A	81025703	Remove Active directory ranges.
N/A	81025763	Upgrades the DS4700 firmware.
21259	81025982, 81026003	Solves a memory fragmentation issue which caused the startup of the VTL process to fail.
21250	81025456	Increases the wait time tolerance for a free slot in the virtual memory cache when the cache is full.
17088	81025889	Adds another attempt to read destination block in replication in case the first attempt failed.
21119	81025905	Reduces the RAM allocation for the virtual memory cache in systems with 32GB or less.
19487	51005749	Solves an issue where dedup estimator results did not show invalid cartridges.
N/A	81025926	Adds static routes to the recover procedure after the network rebuild phase when doing node replacement.
20910	81024031	Solves an issue where wrong status was returned for truncated cartridge causing replication failures.
18408	81025686	Solves a syntax error in battery backup unit check.
17884	81025560	Changes Error message to Notice message.
20652	81023622 81026013	Solves an issue where create repository or increase repository capacity failed because the native replication requested more space than required resulting a situation of not having enough free space for its DB requirements.
RTC 21211	81025980	Solves a performance degradation issue when FSI restore has multiple streams.
20355	81025988	Solves an issue where network configuration changed after reboot.
N/A	81025975	Upgrades the Server and GUI protocol version.
RTC 22140	81025996	Adds the code level to SM1/2 header file when issuing call home.
PTT-29	81026036	Solves an issue where the RAS health check reports about false system memory errors. This issue was introduced by the fixes for issue id RTC 21259 solving the memory fragmentation issue. These fixes changed the way of how the machine's total memory is calculated which caused the RAS health check to fail when checking the machine memory.

### ProtecTIER driver issues:

Issue ID	Fix ID	Description
21259	52000330	Solves a memory fragmentation issue which caused the startup of the VTL process to fail.

### ProtecTIER Manager issues:

Issue ID	Fix ID	Description
N/A	51005750	Removes Active directory ranges.
RTC 14970	51005389	Solves an issue where the explore log directory was stuck because the OS version solution was 6.0 and not 6.1.
N/A	51005457	During code upgrade, we show R.V.M.F instead of V.R.M.F template.
RTC 15895	51005458	Solves an issue of value differences between Activities view and Status bar.
RTC 15243	51005465	The GUI MRPD displays some of its elements more than once and other elements aren't displayed at all.
RTC 15946	51005466	PTCLI clone should return an insufficient disk space error when applicable.
RTC 16310	51005509	Solves an issue where there was a difference between the physical pie display and the total utilization display.
RTC 16460	51005531	Solves a typo in a GUI message using "an hardware" instead of "a hardware".
RTC 16974	51005586	Solves an issue where the GUI was not enabling to clone to a different FS.
RTC 17039	51005591	Solves a typo in a GUI message using the word "history".
RTC 16548	51005624	Solves an issue in the GUI Grid Manager where after concurrently removing/adding repositories from/to the replication group it eventually included all repositories.
RTC 16676	51005640	Solves an issue where an error message appears when trying to see the Replication Policies View of V3.3 or older repositories.
RTC 16884	51005663	Solves an issue where the displayed throughput is zero although there are active backup jobs.
RTC 15701	51005710	Solves an issue where the browse window does not allow cloning of subdirectories.
RTC 18316	51005716	Solves an issue where the GUI failed to delete an RDD under V3.2 version.
N/A	51005762	Solves a typo in the word cartridge in the change principality window.
N/A	51005764	New 3.3.5 License.

## 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® v3.3 Deduplication Appliance Express Software Upgrade Guide* (SC27-3641-07) and choose one of the following options:

- Upgrading a TS7610 or TS7620 system from v3.2 (Option A)  
To upgrade to v3.3.5 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 v3.3 Software Upgrade Guide* (SC27-3641-07).
- Upgrading a TS7610 or TS7620 system from v3.1.8 or higher (Option B)  
To upgrade to v3.3.5 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* (SC27-3641-07).
- 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 v3.3.5 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 v3.3 Software Upgrade Guide* (SC27-3641-07).
- 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* (SC27-3641-07).

For TS7650 Appliance or TS7650G (Gateway) systems, use the *IBM System Storage TS7650 ProtecTIER v3.3 Software Upgrade Guide* (SC27-3643-07) and choose one of the following options:

- Upgrading a TS7650 or TS7650G system from v3.1.8 or higher (Option A)  
To upgrade to v3.3.5 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* (SC27-3643-07).



- 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 v3.3.5 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 (SC27-3643-07)*.

- 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 (SC27-3643-07)*.

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

NOTES:

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

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

<sup>3</sup> – For NBU the max # of jobs supported is 128.

- From v3.3.5 release all upgrades on any ProtecTIER system having less than 64GB RAM will perform double reboot. This behavior is required as part of the solution for the

memory fragmentation issue. As a result, the max drives limitations were modified as shown in the following table:

ProtecTIER System RAM	Number of max drives <sup>1</sup>
24 GB (TS7610-SMB, TS7650-AP1)	64 drives
32 GB (TS7650G-DD3)	128 drives
48 GB (TS7620-SMB2)	128 drives
64 GB (TS7650G-DD4 & DD5)	256 drives

NOTES:

<sup>1</sup> – The max number of drives is modified only in cases where the current system defined number of drives is less than or equal to the new desired max value. In cases where the system has already more drives defined than the desired new max, a new max value will be set to align with the existing settings (on boundary of 32). For example: if the ProtecTIER system has 32GB RAM and has 140 drives defined then the new max value will be set to 160.

Issue ID	Description	Workaround
20431	Following Active Directory Server reboot, ProtecTIER server cannot query users from it	On the ProtecTIER Sever run: "service winbind restart"
20678	Memory failures in SM2 might not trigger an alert	N/A
PTT-41	Invalid error message is issued when doing scratch install of SMB2 using VTL application: "[ERROR] - (6069) main::setMemoryReq [97] Fail to get nodeid"	N/A

## Compatibility

Compatibility requirements include the following:

- ProtecTIER v3.3.5 works with TSSC code level 5.12.8 or later.
- ProtecTIER v3.3.5 requires the use of ProtecTIER Manager v3.3.5.
- ProtecTIER Manager earlier than v3.3.5 is not compatible with ProtecTIER Server v3.3.5. 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 v3.3.5 or later ProtecTIER software.

OpenStorage compatibility:

ProtecTIER Server V3.3.5 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 these steps should be taken:

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.

If you experience difficulties when you use the PDF files and want to request a web-based format or accessible PDF document for a publication, send a request by email to [starpubs@us.ibm.com](mailto:starpubs@us.ibm.com). In the request, be sure to include the IBM publication number and title.

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