



IBM System Storage TS7600 with ProtecTIER

Release Notes

Version 3.4.2.1





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Release notes

These release notes are for IBM System Storage TS7600 with ProtecTIER Software, version 3.4.2.1

Release date: 25th September, 2016.

Introduction

This document is a reference for installation and upgrades and contains other useful information about the IBM System Storage TS7650G with ProtecTIER v3.4.2.1

Prerequisites

Prerequisites include the following:

- ProtecTIER Manager V3.4 must be installed.
- For fix updates, the full package of ProtecTIER v3.4 code must already be installed on the system; installation of a fix update or patch on a Linux OS system without the full package code already installed will fail.

Please contact IBM support for memory upgrade plan.

- ProtecTIER V3.4.X no longer supported on 3958-AP1 appliance, TS7610-SMB and 3958-DD3 machines. Those machines must not be upgraded to V3.4
- ProtecTIER V3.4.X no longer supports OST. Systems with OST enabled must not be upgraded to v.3.4.2.1

Code levels

Code level requirements include the following:

Software	Version
ProtecTIER software level	3.4.2.1
dtcemulex	5234_013
ptlinux	7234_038
ptrepmgr	6234_010

V3.4.2.1 code fixes bug on systems with more than 8 Lun-masking groups (81026891)

New features and resolved problems

The ProtecTIER introduction and planning guide describes the new features in the release:

IBM System Storage TS7650 ProtecTIER 3.4 Deduplication Appliance and TS7650G Deduplication Gateway Introduction and Planning Guide (3958-DD6) (GA32-0918)

See the **Additional documentation** section of this document for information about how to find ProtecTIER publications.

ProtecTIER Server New Features:

Issue ID	Fix ID	Description
PTT-2600	81026798 81026830	Support up to 64 virtual libraries, effect only DD6 & DD5/4

ProtecTIER Server issues:

Issue ID	Fix ID	Description
PTT-2642	81026801	fixes RAS error 0xAA051202 which sent unnecessary callhome alerts
PTT-2607	81026799	False positive for BBU replacement after upgrade to 3.3.8 in SM2
	81026789	FRU PN Change



PTT-2652	81026802	The SAS replace procedure fails as the wwn of the new disk is taken by the multipath.
	81026812	FSI- CIFS performance is low because of excessive logging
PTT-2654	81026814	RAS is reporting 2 FC ports that are not used - fixing health monitoring bug
PTT-2633	81026797.6 81026827.1 81026832.4	Update "getstatus" from v3.58 to v4.00 in DD6 to prevent false positive RAS errors during component status retrieval. Also fixing an issue when connecting DS4700 as DD6 repository.
PTT-2731	81026848	RAS is reporting false/positive errors of device eth1
PTT-2610	81026786	Improve scanners allocation for defraggers algorithm
PTT-2602	81026794	fixing statistics collection for defraggers
PTT-2669	81026801	Support new Intel Ethernet 2port adapter for SM2
PTT-2676	81026816	Fix replace node from DD4/5 to DD6 fails due to missing TSSC IP
PTT-2093	81026838	Add to service report the last successful BOM execution
PTT-2627	81026795	Fixing image creation failiure due to return code 24
PTT-2582	81026797	Apply chances to ECC configuration
PTT-2552	81026756	Fix option "Display detailed health for this node " in health- monitor
PTT-2635	81026833	Fix MES for replacing 1Gb card to 10Gb
PTT-2683	81026838	Add network file to service report
PTT-2684	81026828	Updating stm_internal.xml with 64 delete threads
PTT-2239	81026829	Change ERROR of GetLibNameFromUniqueld to WARN
	81026049	Ras monitoring cause MegaSAS.lof file to grow unmanaged and may cause file system to be full
PTT-2720	81026853	Problem to obtain a full service report from RAS menu
PTT-2762	81026861	RAS should only execute getstatus -ses command once every ten minutes
PTT-2710	81026868	new PVT2 fw - V2.35 from Seagate
PTT-2788	81026859	Write to event.log in case of VTL CRC error

PTT-2833	81026891	LUN masking with more than eight groups fails VTL to start on V3.4.2. Affect only DD4, DD5 and DD6 models
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ProtecTIER Manager issues:

Issue ID	Fix ID	Description
PTT-2677	51005823	Fix NCNR finalize message
PTT-2711	51005832	change max num of libs per appliance from 16 to 64
PTT-2616	51005836	Enlarge size of field of "MD RAID configuration".
PTT-2587	51005838	PT manager running NCNR on V3.3.x Versions
PTT-2756	51005845	incomplete process when adding repository to grid

Firmware Upgrade verification

Before upgrading ProtecTIER Software on a DD6 machine, make sure the firmware levels are on the latest versions.

Follow the instructions exactly as written on the User's Guide for VTL Systems (GA32-0922-11), Chapter 4, **Checking the ProtecTIER 3958 DD6 Firmware version** to verify current levels.

The correct levels to have are:

Component : Version

BMC : 2.0.0050

CPLD : 0.7.0001

BIOS : 0.3.0021

FLASH CONFIG : 0xAD9E52D7

DISRUPTIVE : 0x30E4C1D4

If your system is not running these version, follow the instructions exactly as written on the User's Guide for VTL Systems (GA32-0922-11), Chapter 4, **Updating the ProtecTIER 3958 DD6 Firmware**.

Note: These firmware levels can be found on 3.4.1.0 so if your system is running 3.4.0.0 an upgrade to 3.4.1.0 will be necessary.

Installation Instructions

The installation roadmaps guide contains complete installation instructions for VTL systems:

IBM TS7650G ProtecTIER Deduplication Gateway for ProtecTIER 3.4 Installation Roadmap Guide
(GA32-0921-13)

See the **Additional documentation** section of this document for information about how to find ProtecTIER publications.

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 TS7650 system, use the IBM TS7650 with ProtecTIER software upgrade guide (SC27-3643-09) and choose one of the following options:

- Upgrading a TS7650 system from v3.3 (Option A)
To upgrade to v3.4.2.1 from v3.3, follow the procedure described in Chapter 5, "Upgrading the ProtecTIER software to version 3.4 from version 3.3.x" in the IBM TS7650G for ProtecTIER Software Upgrade Guide V3.4. (SC27-3643-09).
- Upgrading a TS7650 system the ProtecTIER software to 3.3.x from version 3.1.8 or higher using ProtecTIER Manager. (Option B)
To upgrade to v3.4.2.1 from v3.1.8 or above, follow the procedure described in Chapter 6, "Upgrading the ProtecTIER software to version 3.3 from version 3.1.8 or higher" in the IBM TS7650G for ProtecTIER Software Upgrade Guide V3.4. (SC27-3643-09).
- Updating a TS7650 system already at v3.4 with a fix update or patch (Option C)
Update a system already at v3.4 with a later fix update or patch by using the procedure described in Chapter 10, "Applying fixes to update the ProtecTIER software for version 3.4" in the IBM TS7650G for ProtecTIER Software Upgrade Guide V3.4. (SC27-3643-09).

Upgrading the ProtecTIER firmware

After upgrading the ProtecTIER software we need to upgrade the firmware again. Follow the instructions exactly as written on the User's Guide for VTL Systems (GA32-0922-11), Chapter 4, **Updating the ProtecTIER 3958 DD6 Firmware**.

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 byproduct 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
TS7650(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.
- From v3.4 release all upgrades on any ProtecTIER system having less than 64GB RAM will require 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
48 GB (TS7620-SMB2)	128 drives
64 GB (TS7650G-DD4 & DD5)	256 drives
128 GB (DD6)	256 drives

NOTES:

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 already has 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
PTT-2400	Cartridge Query Tool to delete shelf cartridges via the PT Manager returns an error	The process completes successfully and deletes the carts. Workaround is to refresh the GUI view.
PTT-2284	Upgrade via GUI isn't showing progress.	SSH to machine and see the progress via menu OR run upgrade single node via menu.
PTT-2581	eth2 is lost after canister replace	Reboot the server after finishing the replacement

Compatibility

Compatibility requirements include the following:

- ProtecTIER V3.4.2.1 does not support attachment to the TSSC feature on the 3958-DD6 server. Therefore, TSSC must be detached from 3958-DD4 and 3958-DD5 prior to replacing them with the 3958-DD6 system. However the 3958-DD4 and 3958-DD5 systems continue to support attachment to the TSSC for the V3.4 ProtecTIER release.
- ProtecTIER v3.4.2.1 requires the use of ProtecTIER Manager v3.4
- ProtecTIER Manager earlier than v3.4 is not compatible with ProtecTIER Server v3.4.2.1. 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 v3.4 or later ProtecTIER software.

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.

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