



IBM System Storage TS7600 with ProtecTIER

Release Notes

Version 3.4.0.0

VTL only





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Release notes

These release notes are for IBM System Storage TS7600 with ProtecTIER Software, version 3.4.0.0

Release date: 11 March 2016.

Introduction

This document is a reference for installation and upgrades and contains other useful information about the IBM System Storage TS7650G with ProtecTIER v3.4.0

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 V3.4.0 does not support FSI application interface. Such support will be enabled in ProtecTIER v3.4.1. Any reference to FSI in this document requires the ProtecTIER release v3.4.1.
- ProtecTIER V3.4.X no longer supports OST. Systems with OST enabled must not be upgraded to v.3.4

Code levels

Code level requirements include the following:

Software	Version
ProtecTIER software level	3.4.0.0
dtcemulex	5234_012
ptlinux	7234_029
ptrepmgr	6234_005

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 3.4 New SW Features:

- 1) **Near online check and recovery** - Near online check and recovery scans the ProtecTIER integrity structures for errors and tries to recover them.
Once the process completes , if it finds damaged cartridges , it will generate an output file with their ranges to scan . For additional information please refer to the UserGuide. The procedure is partially online (70-80% online) vs previous ProtecTIER versions where the entire process was offline.
- 2) **New defraggers algorithm** - The new algorithm embed new scanners which reduce the defraggers scan time by scanning fragment candidate space in parallel to the defraggers work. This new feature enhances overall system performance.
- 3) **Performance Tool** - A tool which analyzes the ProtecTIER system performance variables and displays a graphic report to the user. The Performance Analysis Report parses the long-term statistics from a node and creates HTML files to hold performance statistics and other graphicly relevant information.
- 4) **IBM ProtecTIER introduces new HW refresh, TS7600 3958 DD6 model family** - This is a higher performance server available in March 2016.
The new ProtecTIER Enterprise Edition V3.4 TS7650G Model DD6 integrates the clustered system configuration into a single 2U chassis and integrates the service interface into the offering. Both of these enhancements reduce the rack space requirements for the TS7650G solution.
- 5) **10Gbit new Interfaces (on DD6 Only)** – New DD6 hardware has 2, 10Gbit Ethernet interfaces per system, as an upgrade from 1Gbit. The cables are made of copper which reduces costs and improves performance.

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 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 v3.3.8 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).

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.
- The table below represents the maximal number of recommended concurrent streams with 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 RAID's 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-2455	Unable to extend existing VG during an increase capacity operation	Description: http://g01zciwas018.ahe.pok.ibm.com/support/dcf/preview.wss?host=g01zcidbs003.ahe.pok.ibm.com&db=support/ssg/ssgt ech.nsf&unid=1AC42845B386EE5185257F67000A8F99&taxOC=STVRB7&MD=2016/02/27%2022:02:14&sid=
PTT-2205	OS image creation didn't automatically end successfully	Re-run manually OS image creation via the menu (ProtecTIER Configuration -> OS images Management -> Create an OS image)
PTT-2417	Unexpected reboot after replacing a canister in a clustered environment	Please contact support. Description: http://g01zciwas018.ahe.pok.ibm.com/support/dcf/preview.wss?host=g01zcidbs003.ahe.pok.ibm.com&db=support/ssg/ssgt ech.nsf&unid=EEBC1A3A74DF649585257F6600714A48&taxOC=STVRB7&MD=2016/02/27%2019:02:57&sid=
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-2320	After replacing SAS hard drive the logs are not saved to /pt_work/logs	Manually copy the logs from /temp into /pt_work/logs
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.
	Error message "elxflash: Error" and "PT error 2611" during firmware upgrade on front-end HBA Avago (Emulex) Card LPe12004	Please contact support. Description: http://g01zciwas018.ahe.pok.ibm.com/support/dcf/preview.wss?host=g01zcidbs003.ahe.pok.ibm.com&db=support/ssg/ssgt ech.nsf&unid=D2AABCDAA4C56A8585257F660007E9E1&taxOC=STVRB7&MD=2016/02/27%2013:02:23&sid=

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Compatibility

Compatibility requirements include the following:

- ProtecTIER v3.4 does NOT work with TSSC any longer. To detach TSSC device, follow the procedure described in chapter 2, "Detaching the TSSC" in the IBM TS7650G for ProtecTIER Software Upgrade Guide V3.4. (SC27-3643-09).
- ProtecTIER v3.4 requires the use of ProtecTIER Manager v3.4
- ProtecTIER Manager earlier than v3.4 is not compatible with ProtecTIER Server v3.4. 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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