



IBM System Storage TS7600 with ProtecTIER

Release Notes

Version 3.4.3.1 **V2**

CSP Version





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Release notes

These release notes are for IBM System Storage TS7600 with ProtecTIER Software, version 3.4.3.1

Release date: May 28th, 2017

Introduction

This document is a reference for installation and upgrades and contains other useful information about the IBM System Storage TS7600 with ProtecTIER v3.4.3.1

Prerequisites

Prerequisites include the following:

- ProtecTIER Manager V3.4.3.0 must be installed.
- For fix updates, A full package of any ProtecTIER code must already be installed on the system; installation of a fix update or patch on a Linux OS system without a full package code already installed will fail.

Please contact IBM support for memory upgrade plan.

- ProtecTIER V3.4.X no longer supported on TS7650 3958-AP1 appliance, TS7610 3959-SMB1 and TS7650G 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 V3.4.3.1.

Code levels

Code level requirements include the following:

Software	Version
ProtecTIER software level	3.4.3.1
Dtcmulex	5234_014
Ptlinux	7234_042
Ptrepmgr	6234_012

V3.4.3.1 CSP enables ProtecTIER support for an additional Emulex card - 98Y7957 (81026950), provides the option to configure a peak throughput of 2950mbps for DD6 machines (81026883.3) and removes a XYBridge driver for Vnic from the ProtecTIER code due to possible DD6 hangs (81026951.3).

New features and resolved problems

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-2921	81026898	launch installation /upgrade using Disk On Key On DD6
PTT-2975	81026896 81026925	
PTT-2868	81026906	
PTT-2961	81026928	Qualification for new Emulex PCIe12004-M8-IBM card For DD6

New ProtecTIER GUI 3.4.3.0 is available.

ProtecTIER Server issues:

Issue ID	Fix ID	Description
PTT-2733	81026854	Upgrade fail on DD6 due to hang in command <i>fdisk -l</i>
PTT-2734	81026855	Create repository got hanged due to abnormal open processes of "discoverRepository"
PTT-2002	81026863	Install 3.4 only after verifying RH version
PTT-2688	81026865	Configure eth1 primary interface in bond0
PTT-2738	81026872	Improve DSO events - Deadlock suspicious - change to try-lock in STM::TryActivateStg(...)
PTT-2591	81026876	Scratch- install with upgrade package fails with unclear message
PTT-2790	81026877	Analyze_session output is missing last char of last cart
PTT-2275	81026878	Fix upgrade to use new code for upgrade
PTT-2791 RH 01684350	81026879	Change mpath_wait and add retry=20 to scan high number of paths per LUN
PTT-2808	81026880	Disconnected FE ports are being reported as failed in the health check report
PTT-2833	81026891	Lunmasking with more then 8 groups won't start VTL
PTT-2673	81026892	Samba users are not correctly displayed after a DD5 to DD6 node replacement
PTT-2647	81026894	Option to clean several RAS alerts in menu
PTT-2230	81026899	Fixing statistics during NCNR
PTT-2894	81026905	Remove unnecessary check CRC when not needed during defrag
PTT-2878	81026913	VTL won't start since DfsAsyncDeleteDiskStore file got corrupted
PTT-2622	81026790	Allow empty field in webinfo output
PTT-2674	81026837	Update Firmware failed to reboot server after FPGA FW was updated
PTT-2705	81026845	Adding SNMP for additional RAS alerts
PTT-2728	81026847	WWNs of back-end duplicates after removing the front-end card
PTT-2769	81026870	RAS messages appear without running any function manually on Menu
PTT-2806	81026885	Fix option "Increase capacity completion"

PTT-2560	81026890	vtfd shutdown mode after upgrade in FSI_1GB
PTT-2845	81026897	Temperature sensor is missing / not reported in 3.4.2.1
PTT-2368	81026901	Changing timeout value for delete and move carts using PTCLI From GUI
PTT-2891	81026902	RAS script for network monitoring prints confusing messages
PTT-2730	81026910	Disabling monitoring on /dev/loop0
PTT-2914	81026914	FS creation fails after adding and deleting mpaths
PTT-2619	81026916	Standalone installation tries to DiscoverOtherNode
PTT-2812	81026922	Adding Collectl to PT package
PTT-2924	81026924	pingstats file is missing
PTT-2973	81026927	FSI system failed on BOM when using new intel card VJ456
PTT-2978	81026930	Collect additional BMC logs
PTT-3012	81026937	Adding current graphic number on the performance tool
PTT-2650	81026938	Introducing performance tool on GUI
PTT-2893	81026883.3	Allow new max throughput rates to configure repository (2950mbps)
PTT-3094	81026950 81026954	Support new Emulex card - 98Y7957
PTT-3088	81026951.3	Remove Vnic driver due to possible DD6 hangs

ProtecTIER Manager issues:

Issue ID	Fix ID	Description
PTT-2739	51005846	Upgrading system is not displayed in the upgrading systems tab
PTT-2368 PTT-2400	81026901	Changing timeout for delete/ move in PTCLI
PTT-2514	51005847	GUI Replication Navigation Pane does not show all the content easily
PTT-3007	51005853	Add path to license folder
PTT-2650	51005851	Introducing performance tool on GUI

Firmware Upgrade verification

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

To verify the current firmware level, follow the instructions exactly as written in "**Checking the ProtecTIER 3958 DD6 Firmware version**" in Chapter 4 of the User's Guide for VTL Systems (GA32-0922-12).

The correct levels to have before upgrading to 3.4.3.1 are:

Component	: Version

BMC	: 2.0.006D
CPLD	: 0.9.0001
BIOS	: 0.3.0021
FLASH CONFIG	: 0xB0C12970
DISRUPTIVE	: 0x30E4C1D4

If your system is not running these version, follow the instructions exactly as written in "**Updating the ProtecTIER 3958 DD6 Firmware**" in chapter 4 of User's Guide for VTL Systems (GA32-0922-12).

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
(SC27-8901-00)

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 (SC27-3643-12) and choose one of the following options:

- Upgrading a TS7650 system from v3.3 (Option A)
To upgrade to v3.4.3.1 from v3.3, follow the procedure described in Chapter 5, "Upgrading the ProtecTIER software to version 3.4 from version 3.3.x" using ProtecTIER Manager in the IBM TS7650G for ProtecTIER Software Upgrade Guide V3.4. (SC27-3643-12).
- 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 v3.4.3.1 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" using ProtecTIER Manager in the IBM TS7650G for ProtecTIER Software Upgrade Guide V3.4. (SC27-3643-12).
- 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 minor releases or fixes for ProtecTIER systems already at version 3.4" in the IBM TS7650G for ProtecTIER Software Upgrade Guide V3.4. (SC27-3643-12).

Upgrading the ProtecTIER firmware

After upgrading the ProtecTIER software a new firmware upgrade may be needed. Follow the instructions exactly as written in "**Checking the ProtecTIER 3958 DD6 Firmware version**" in Chapter 4 of the User's Guide for VTL Systems (GA32-0922-12) to verify firmwares levels are on the latest version.

If an upgrade is needed, follow the instructions exactly as written in the User's Guide for VTL Systems (GA32-0922-12), "**Updating the ProtecTIER 3958 DD6 Firmware**" section in chapter 4.

Additional documentation

The support homepage contains all relevant documentation.

To access the additional documentation:

- In a web browser, navigate to <https://www-05.ibm.com/e-business/linkweb/publications/servlet/pbi.wss?SSN=17B0S0002250455467&FNC=SRH>

- Search for the keyword 'ProtecTIER'

GUI license files can be found in “License” folder under PT Manager installation location.
For example: *C:\Program Files\IBM\ProtecTIER Manager\license*

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 RAID configurations are configured to support the desired throughput.
2. No systems (Gateway) should be configured for less than 100MB/sec

3. For NetBackup 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-2810	The health check reports the BMC module with an error after removing one memory DIMM	The workaround is to cold reset the BMC using the following command: <ul style="list-style-type: none"> • ipmitool bmc reset cold
PTT-2906	Cannot change BMC admin password using web GUI controller	Use command line - #ipmitool user set password
PTT-2581	On FSI with V3.4+ code, eth2 is lost after canister replacement	Reboot the server after finishing the replacement
PTT-2783	MRPD report not working from GUI	Create MRPD report using menu: Menu ->Version Information -> Display Machine Reported Product Data (MRPD)
PTT-997	Following upgrade / node replacement / HBA MES PT drivers might not be accessible due to wrong WWN configuration	Contact Support for manual workaround Manually change WWN of PT FE ports (Internal link)

PTT-3203	VTFD might stay down after manual execution of "Firmware update" using the menu. This issue will be fixed on V3.4.4.0	Please start VTFD manually: #Service vtfd start VTFD might stay down after firmware upgrade on V3 4 3 - internal link for L2
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Compatibility

Compatibility requirements include the following:

- ProtecTIER V3.4.3.1 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 V3.4.3.1 requires the use of ProtecTIER Manager V3.4.3.0
- ProtecTIER Manager earlier than V3.4 is not compatible with ProtecTIER Server V3.4.3.1 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 V3.4 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 "ISV Support Matrix" document.

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