

IBM TotalStorage Productivity Center for
Replication V3.3.2



Release Notes

Version 3 Release 3.2

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Replication V3.3.2



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Note

Before using this information and the product it supports, read the information in "Notices," on page 17.

First Edition (September 2007)

This edition applies to the IBM TotalStorage Productivity Center for Replication 3.3.2 release and to all subsequent releases and modifications until otherwise indicated in new editions.

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About this release

This document contains the release notes in support of TotalStorage Productivity Center for Replication V3.3.2.

Changes in this release

This section describes changes in this release, including new functions, features, and fixes for this release.

Function

The Permit Read on the Secondary bit is now on by default for any MM or GC pair established through TotalStorage Productivity Center for Replication.

By default, when you establish a Metro Mirror or Global Copy pair, the Permit Read on the secondary bit enables you to read from the secondary device.

Fixes

Configuration

WebSphere port conflicts are now resolved

In previous versions, when installing TotalStorage Productivity Center for Replication on a server that contains another product that uses WebSphere, there was a possibility of port conflicts. This problem is resolved with this release. An installation of this release uses different WebSphere ports than the default ports to avoid port conflicts.

Sessions

Reactivation of heartbeat could lead to a subsequent long busy condition no longer a problem

In previous versions, the server heartbeat for Metro Mirror relationships might reactivate after losing connectivity to the device causing the expected suspension of the pairs. The reactivation could lead to a subsequent long busy condition on the device if another disconnect between the TotalStorage Productivity Center for Replication server and device occurs while the session is still suspended.

This problem is resolved with V3.3.2. If you use sessions containing Metro Mirror relationships, and have the heartbeat enabled on the Advanced Tools panel, upgrade to V3.3.2 to receive this fix.

High-availability

A sync failure no longer causes the standby server to process events that the active server should manage

When setting up a standby server in previous versions, if a sync failure occurred before the two servers were synchronized, the standby would continue functioning as an active server. This caused problems, particularly during a resynchronization, because the server might start processing events for the new session configuration even though the takeover had not completed.

This problem is resolved with this release. A sync failure no longer causes the standby to process events that only the active server should manage.

Active and standby servers no longer hang after synchronization

In previous versions, the active and standby servers might hang after a successful synchronization. This problem is resolved with this release. The problem involved a communication problem with the SVC that was defined on the active server. The SVC was not responding, causing the systems to hang.

Paths

Path consistency-group mode setting now taken into account when establishing a path through the GUI or CLI

In previous versions, you could not add logical DS8000, DS6000, or ESS paths through TotalStorage Productivity Center for Replication without the paths being established in a mode that would cause a freeze during an error. This limitation prevented you from creating additional paths for solutions, such as Global Mirror, through the path-management panel of the GUI or the command-line interface (CLI).

This problem is resolved with this release. The path-management panel of the GUI and the CLI now take into account whether the path needs to be defined so that it freezes when an error occurs, based on the relationships contained in the defined sessions. The default setting is to not cause a freeze.

If any session is started after creating the logical paths through the GUI or CLI, and that session requires the path setting to freeze, then the paths are reestablished with the setting so that a freeze will occur. A session with the freeze setting overrules a session that does not need the setting so that consistency can be maintained.

Note: The path establishment does not take into account any relationships established externally of TotalStorage Productivity Center for Replication. This could cause the path to behave differently than what the external relationship expects. To avoid this discrepancy, use TotalStorage Productivity Center for Replication to establish all relationships.

Control path logic improved to handle larger Global Mirror environments

In previous versions, there were issues in the Global Mirror management code that creates control paths for the master session, particularly in large customer environments with a configuration of several Global Mirror source boxes. These issues are resolved with this release. There have been several fixes to the control path logic to handle larger Global Mirror environments. If you run or plan to run sessions containing Global Mirror relationships, upgrade to V3.3.2 to receive this fix.

GUI

In previous versions, when you viewed the Global Mirror session H1->H2 role details panel, performing an auto-refresh made the role counts (the column with Defined, Preparing, Prepared, Suspended, and Target Available) all go to zero.

This problem is resolved with this release.

In previous versions, the Add Subsystem and Volume Protection buttons were not disabled on the standby server.

In this release, the Add Subsystem and Volume Protection buttons are disabled on the standby server.

The detailed message on a suspended pair now shows the suspend-reason code

In previous versions, when a suspension of a pair occurred on the hardware, and the suspension was not caused by TotalStorage Productivity Center for Replication, TotalStorage Productivity Center for Replication did not show the suspend-reason code provided by the hardware to help you determine the root cause of the suspension.

This problem is resolved with this release. The detailed message on the pair now shows the suspend-reason code when the pair that is suspended and the TotalStorage Productivity Center for Replication server did not expect the suspension.

Refer to the hardware documentation to determine the meaning of the suspend-reason code.

A session now shows as being in a prepared state after restart

In previous versions, after a restart, a session might appear as being in a defined state when the pairs remained in a prepared state. This problem is resolved with this release. A locking issue in the code has been fixed.

Password not required on the Modify Subsystem GUI panel

In previous versions, an error would occur if you went to the Modify Subsystem panel and did not supply a password, even though the panel states a password is not required. This problem is resolved with this release. No password is required on the panel.

You can now modify storage device information regardless of the device connection state

In previous versions, you were not allowed to modify the information for the storage device on the Storage Subsystem panel unless the device was disconnected. This led to problems when connectivity was lost to only one of the clusters in a DS8000, DS6000, or ESS box and the password needed to be modified for that cluster.

This problem is resolved with this release. You can now modify the storage device information regardless of the state of the connection for the device.

In previous versions, Global Mirror sessions that were terminated outside IBM TotalStorage Productivity Center for Replication were not acknowledged by IBM TotalStorage Productivity Center for Replication.

This problem is resolved with this release.

In previous versions, if you were running a Metro Mirror session in a Prepared state and disconnected the communication link between the TotalStorage Productivity Center for Replication server and the primary DS8000 and reconnected approximately thirty seconds later, the Metro Mirror session showed as "Suspended" but the copy sets within the session showed as "Prepared" because the DS8000 box did not freeze the copy sets before the connection and heartbeat was restored.

This problem is resolved with this release.

In previous versions in Metro Global Mirror sessions, when you copied data from H2 to H1 to H3 with the session is in a Suspended state, and then added a new copy set to the session and issue a startH2H3 command, the session might not end up in a Prepared state.

This problem is resolved with this release.

In previous versions, when copying data from H1->H2->H3 or H2->H1->H3 and the primary box went down after a Recover command was issued to the intermediate site, the recoverability would start to change for the volumes even

though the volumes were actually recoverable.

This problem is resolved with this release.

In previous versions, you were not able to set up the H3 site to practice a recovery while remaining disaster-recovery capable.

Starting with version 3.3.1, you can set up the H3 site to practice a recovery while you remain disaster-recovery capable. For more information, see "Practicing recoveries while remaining disaster-recovery capable" on page 9.

This release fixes an issue in which the consistency group flag on established paths was being set to "on" for some Global Copy relationships in a Metro Global Mirror session, after a restart in a Global Mirror Failover/Failback session. Starting with this release, the bit is set off for the Global Copy pairs so that your application will not be affected in the case of a disaster.

This problem is resolved with this release.

In previous versions, the prompt for Recover H2 for a Metro Global Mirror session shows no replication taking place, even though Global Copy and FlashCopy are both active.

This problem is resolved in this release; the prompt contains text indicating that Global Mirror will be terminated, but that Global Copy and FlashCopy will remain active.

In previous versions, when running a Global Mirror session, the cgTime was not updated on the Modify Properties panel when the cgTime changed.

This problem has been resolved with this release.

Parallel access volumes appeared as valid volumes.

In previous versions, parallel access volumes (PAVs) appeared in the element catalog as valid volumes. This release fixes that issue.

New DS8000 support

This release of IBM TotalStorage Productivity Center for Replication has updated code to communicate with the newer DS8000 storage server microcode releases starting at 62.41.xx.0. Starting with the next DS8000 microcode release of 62.41.xx.0, this updated IBM TotalStorage Productivity Center for Replication version will be required to use these newer DS8000 microcode levels. While IBM TotalStorage Productivity Center for Replication can still communicate with the older microcode versions, earlier IBM TotalStorage Productivity Center for Replication versions will not be able to communicate with the new DS8000 microcode releases.

Earlier IBM TotalStorage Productivity Center for Replication versions will indicate this as a problem with a failure reason code of 7 (indicating a configuration failure) when you attempt to add the storage system to IBM TotalStorage Productivity Center for Replication. This failure reason code will return immediately after you use the command to add a storage system, instead of taking the typical 30–60 seconds to return.

Prerequisites

Prerequisites for this release are the same as for TotalStorage Productivity Center for Replication V3.3.

Note: This version of TotalStorage Productivity Center for Replication offers support for DS6000 and DS8000, Release 2.0 and above, with a recommended level of 2.4 microcode due to microcode fixes.

Installing this release

If you do not currently have TotalStorage Productivity Center for Replication V3.3 installed on the server, the installation procedure for V3.3.2 is the same as for V3.3: start the setup binary and respond to the prompts on the installation wizard panels.

When TotalStorage Productivity Center for Replication V3.3 is already installed on the server, you will encounter an additional panel that has been added for the migration from V3.3 to V3.3.2. The TotalStorage Productivity Center for Replication user and the DB2 user are automatically detected by the installation wizard when V3.3 is present on the server. When the installation wizard detects that the previous version is installed, it notifies you that WAS is running and prompts you to verify that you want to proceed with the migration. Once you confirm that you want to proceed, respond to the prompts on the rest of the installation panels.

IBM TotalStorage Productivity Center for Replication V3.3.2 is an upgrade installation

IBM TotalStorage Productivity Center for Replication V3.3.2 is available only as an upgrade to version 3.3.0 installations. If you attempt to install this version on a server that does not have the requisite version installed, the following error message is displayed:

```
Cannot locate the install files for Embedded WebSphere Express v6.0.  
Look at the log file (InstallRoot) TPCRMInstall.log for details.
```

This message is telling you that you need to install version 3.3.0 first, and then upgrade to version 3.3.2.

Location of setup binaries

If the installation procedure does not automatically start after you insert the installation CD, you can start the installation by double-clicking the setup binary.

The setup binaries to start the installation of IBM TotalStorage Productivity Center for Replication V3.3.2 are located in the top directory of the installation CD. The filename of the setup binary for each operating system is:

- Windows: setupwin32.exe
- Linux: setuplinux.bin
- AIX: setupaix.bin

Practicing recoveries while remaining disaster-recovery capable

To practice disaster recovery on your remote site, you must first suspend the back end. (For example, if you are running an H1->H2->H3 configuration, you would issue a **SuspendH2H3** command). This pauses the Global Mirror portion of the session, while leaving the Metro Mirror portion of the session active. Once you are in this Suspended state, you can issue a **RecoverH3** command.

The **RecoverH3** command is different from the typical **Recover** commands. In this case, using the **RecoverH3** command makes the remote site (H3) Target Available, but does not switch the application site to H3. The application site remains the original host site, and the session performs as it would for a normal Metro Mirror Failover/Failback session. While the session is in this mode, it remains disaster-recovery capable, and will freeze all pairs to maintain consistency in the event of a disaster.

Note: You can also use the **Suspend** command and recover to the intermediate site if necessary.

If, in this example, you recover to your intermediate site of H2, you will not be able to restart a full three-site solution. To get all three sites back up and running, you must copy back to H1 using the **Start H2->H1** command, and then suspend and recover to H1. After H1 is the application host again, you can issue the **Start H1->H2->H3** command to restart the three-site support.

After you reissue a **Start H1->H2->H3** command, all data written to H3 when you were practicing will be overwritten with the data on H1. Starting with this release, you can also choose to restart only the front end after a normal **Recover** to H3 in configuration H1->H2->H3. For example, after issuing a **RecoverH3** command, you can issue a **Start H1->H2** command to set up disaster recovery capabilities while you practice; or, you issue a **Start H1->H2->H3** command to restart copying across the entire configuration. The following sections provide information on how to practice a recovery at site three, and provide examples of possible scenarios.

Practicing a recovery at site three

To get into a practice mode at your tertiary site, perform the following steps:

1. Issue a **StartH1->H2->H3** command.
2. Issue a **SuspendH2H3** command.
3. Issue a **RecoverH3** command.
4. Keep running your application on H1 while you set up the practice environment on H3.

After performing these steps, the session goes into a Prepared state, with only the H1->H2 role pair participating. You do not need to issue a **Start H1->H2** command at this point, because the session automatically transitions to that state.

Scenario: While practicing a recovery, a disaster occurs at Site 1 with a Recover to Site 2

If a disaster occurs at Site 1, the session immediately suspends itself. Perform the following steps:

1. Issue a **RecoverH2** command.
2. Move the application I/O to Site 2.
3. Issue a **StartH2->H1** command to become disaster-recovery capable.

Scenario: While practicing a planned outage on Site 1, you want to Recover to Site 2

To switch the site to Site 2, perform the following steps:

1. Issue a **Suspend** command.
2. Issue a **RecoverH2** command.
3. Move the application I/O to Site 2.
4. Issue a **StartH2->H1** command.

Scenario: While practicing production on Site 2, you want to move production back to Site 1

If you move your production to Site 2, you cannot start three-site support until you move production back to Site 1. To move production back to Site 1 perform the following steps:

1. Ensure that your session is running H2->H1.
2. Issue a **Suspend** command.
3. Issue a **RecoverH1** command.
4. Move application I/O to Site 1.
5. Issue a **StartH1->H2** command to become disaster-recovery capable again.
6. When H3 is ready to receive a copy of the data at site 1, issue a **StartH1->H2->H3** command.

After you complete these steps, all writes that were made to H3 are overwritten by the data on site 1.

Adding the DS6000 or DS8000 to TotalStorage Productivity Center for Replication

Note: This version of TotalStorage Productivity Center for Replication offers support for Release 2.0 for the DS6000 products, and offers support for Release 2.4.1 of the DS8000 products.

When adding DS6000 and DS8000 machines to be used by TotalStorage Productivity Center for Replication, a username and password is required to complete the addition. The following instructions explain how to get and change this user name and password.

Adding the DS6000

To authenticate TotalStorage Productivity Center for Replication to a DS6000 that you have added, call customer support to contact a product field engineer (PFE) to set up a user name and password on the DS6000. To contact a PFE, call 1-800-IBM-SERV. Provide the machine type and ask the PFE to set DS6000 authentication for use with TotalStorage Productivity Center for Replication.

The PFE is also required for any subsequent changes to the user name and password after the initial user name and password setup.

Adding the DS8000

Release 2.0

When you add a DS8000, Release 2.0, TotalStorage Productivity Center for Replication prompts you for a user ID and password that enables communication between the DS8000 and TotalStorage Productivity Center for Replication.

For a DS8000, the user ID and password that you should enter is the default user ID and password that is created for the DS8000. The user ID is *tpcruser*. The password is the seven-character Storage Facility Image (SFI) serial number, in the form *mmssssi* (no dashes). The *mm* string is numeric; the *ssss* string is alphanumeric; the *i* is either 1 or 2.

If a change to the default user name or password is required, contact a PFE for help. To contact a PFE, call 1-800-IBM-SERV. Provide the machine type and ask the PFE to change the DS8000 authentication for use with TotalStorage Productivity Center for Replication.

Release 2.4

For the 2.4 release of the DS8000, you can set or update the TotalStorage Productivity Center for Replication user password without the assistance of a PFE.

To set or change the password, enter the following command on the DS command-line interface (note that the command is entered on one line):

```
setrmpw [ { -help|-h|-? } ] [-v on|off] [-bnr on|off] [-dev storage_image_ID]
[-server 0|1|both] [-rmpw new_RM_password]
```

Note that the user ID is still *tpcruser*.

Graphical user interface (GUI)

SVC hardware return codes

The TotalStorage Productivity Center for Replication graphical user interface (GUI) creates hyperlinks to the ESS800, DS6000, and DS8000 hardware return codes help page when a SAN Volume Controller (SVC) hardware return code is encountered. However, the SVC hardware return codes are not listed on the help page. Please see SVC documentation for SVC return codes.

Delay in the reporting of standby server status

If the standby server in a high-availability environment is shut down or loses connectivity to the active server, it might take several minutes to display the status in the GUI as disconnected. (However, the CLI reports the correct status.)

Reporting of automatically generated control paths

Control paths for Global Mirror sessions that are automatically generated by TotalStorage Productivity Center for Replication are not reported as automatically generated in the Path Management panels.

Configuration changes

Delay in ESS800 configuration change updates

If a configuration change for an ESS800 is not updated in the TotalStorage Productivity Center for Replication environment, log out of the ESS Specialist to ensure that TotalStorage Productivity Center for Replication receives the configuration updates. It might take up to 30 minutes after logging out for the configuration change to be noticed.

Note that you can do a manual refresh of the configuration from the Storage Subsystems Panel.

Uninstalling this release

Uninstalling TotalStorage Productivity Center for Replication V3.3.2

The following problems might occur if you uninstall TotalStorage Productivity Center for Replication V3.3.2, and then reinstall versions 3.3 and 3.3.2 on the server:

- Inability to load the TotalStorage Productivity Center for Replication GUI
- Inability to connect to a server using the CLI

In testing, this problem occurred only on AIX.

To correct this problem, delete or rename the InstallShield Vital Product Data (VPD) registry (the Gen1 folder).

Note: Ensure that no other products are using the InstallShield VPD registry before deleting it.

The Gen1 folder is located at:

```
/usr/lib/objrepos/InstallShield/Universal/common
```

After you delete or rename the Gen1 folder, you should do a manual uninstallation because if you use the uninstallation wizard (./uninstall.bin), a message is displayed that the engine located in the Gen1 directory cannot be located.

When the uninstallation is complete, install version 3.3, and then version 3.3.2.

Known issues and workarounds

Ensure that there are physical paths between all source boxes in Global Mirror sessions

If no physical paths are defined between all source boxes for a Global Mirror session, and a start is issued to the session, TotalStorage Productivity Center for Replication attempts to determine which box is the best master box for Global Mirror. It examines all possible combinations of LSS pairings between boxes to see if there are any with a valid possible connection. This processing can take an extended time before displaying an error to the user that TotalStorage Productivity Center for Replication cannot determine a master box. To avoid this issue, ensure there are physical paths between all the source boxes in the Global Mirror session.

The z/OS installation instructions refer to a nonexistent file, z/OS?:<InstallSource>\setupzos.bin.

An installation file by that name does not exist. Instead, z/OS is installed with a tool called SMP/E. SMP/E controls changes at the element level by performing the following tasks:

- Selecting the correct levels of elements to be installed (from a large number of changes).
- Calling system utility programs to install the changes
- Keeping records of the installed changes.

SMP/E can be run either using batch jobs, or using dialogs under Interactive System Productivity Facility/Program Development Facility (ISPF/PDF). SMP/E dialogs enable you to interactively query the SMP/E database, as well as create and submit jobs to process SMP/E commands.

For information on how to install TotalStorage Productivity Center for Replication using SMP/E, refer to the program directory at <http://publibfp.boulder.ibm.com/epubs/pdf/i1179630.pdf>. Then, complete the post-installation steps at http://publib.boulder.ibm.com/infocenter/tivihelp/v4r1/topic/com.ibm.rm33.doc/frc_t_post_install_for_zos.html.

Appendix. Notices

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