

IBM System Storage - DS8880 Disk Storage

Microcode Bundle 88.41.5.0 Release Note Information

Release Date: November 7, 2018

VRMF Level Data Results:

VRMF level From:	88.40.62.0
VRMF Level To:	88.41.5.0
Report for:	All DS8880

Code Bundle Contents

DS8880 Code Bundle Level	SEA or LMC Version:	DSCLI Client	Heat Map Transfer Utility	Storage Manager	Copy Services Manager
88.41.5.0	7.8.41.14	7.8.41.14	7.8.41.14	5.8.41.1006	6.2.2.1

Overview of new features and functions supported by this release

At a glance:

- Code fixes

This new microcode release supports DS8880 systems only.

Select Modifications Included in this Release Note:

This is a list of some modifications contained across one or more LIC (License Internal Code) or microcode release(s). The potential impact is variable. Specific environments may aggravate or degrade the potential impact. Problem(s) fixed and reported in this release note may not be in higher levels of code bundles.

Definition of Problem Severity:

1	High Impact	- Acute: An irrecoverable error with potential loss of data. - Serious: An irrecoverable error with potential loss of access to data.
2	Moderate	- A function not operational and/or performance might be degraded.
3	Service	- A recoverable error (no impact) and service improvements.
4	Improvements	- Improvement changes for better Usability and Serviceability.

HIPER: High Impact problem that is Pervasive: 3 or more occurrences

IBM System Storage - DS8880 Disk Storage

Microcode Bundle 88.41.5.0 Release Note Information

Acute: An irrecoverable error with potential loss of data.

None.

Serious: An irrecoverable error with potential loss of access to data.

HIPER Dual disk enclosure controller failure

1. **Problem Description:** A disk enclosure controller failed, and the surviving partner controller was unable to complete enclosure recovery actions.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes

ID# 332765

SRC=BE504940 on Flash Copy target volume

1. **Problem Description:** While performing Copy Source to Target operation, a microcode error during host bay PCIe fabric recovery, resulted in a cache medium error.
2. **Potential Impact of Problem:** loss of data
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID# 333246

Registered State Change Notification with incorrect Device ID

1. **Problem Description:** During LSS creation or deletion, host adapter may send RSCN prematurely, before the Device ID has been correctly set.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID# 335015

HIPER HPFE dual expander hang

1. **Problem Description:** During error recovery, i2c bus errors were not handled properly by VRA firmware
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes

ID# 335285

HIPER Host Adapter 0xB40B MLE with IBM i host connections

1. **Problem Description:** A check condition while processing IBM i linked commands can trigger a Microcode Logic Error. This pattern may then repeat on multiple host adapters, leading to temporary loss of access.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes

ID# 335351

IBM System Storage - DS8880 Disk Storage

Microcode Bundle 88.41.5.0 Release Note Information

HIPER KCQ=52400 on IBM i systems running Geographic Mirroring

1. **Problem Description:** IBM i hosts above 7.2 TR7 or 7.3 TR3 are exposed to a loss of access when processing skip read/write commands in a Geographic Mirroring environment.
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** HIPER
 4. **Pervasive Problem:** No
- ID# 335899

Repeating 0x264A MLE during failover

1. **Problem Description:** After a data loss event, a Microcode Logic Error can cause repeated warmstarts during failover.
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
- ID# 335935

Repeated 0x7F31 MLEs

1. **Problem Description:** When creating a forward cascading FlashCopy relationship, system encountered repeated MLEs accessing some tracks in the B copy until the B -> C copy was complete
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
- ID# 336893

Permanent I/O errors after Hyperswap

1. **Problem Description:** z/OS Metro/Global Mirror-Incremental Resync establish commands were issued to secondary devices in a suspended Global Mirror session. The commands were allowed to process because of incorrect status in a control block.
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
- ID# 337250

Moderate: A system path is not operational and/or performance may be degraded.

0x05E0 MLE

1. **Problem Description:** Locking exception while a PAV alias device is trying to query whether the base device has a reserve.
 2. **Potential Impact of Problem:** Warmstart
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** Yes
- ID# 331106

IBM System Storage - DS8880 Disk Storage

Microcode Bundle 88.41.5.0 Release Note Information

FICON channel errors after swap to new CPU

1. **Problem Description:** When the original CPU was shutdown, the Host Adapter port did not clear flags that indicate features supported by the CPU, causing a mismatch when the new CPU was brought up.
 2. **Potential Impact of Problem:** Channel detected errors
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
- ID# 335051

0x13DA MLE

1. **Problem Description:** Two Dynamic Extent Relocation requests are migrating the same extent
 2. **Potential Impact of Problem:** Warmstart
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
- ID# 335529

Easy Tier stats collection stalled

1. **Problem Description:** After a warmstart, Easy Tier may fail to allocate stat buffers for new volumes
 2. **Potential Impact of Problem:** degraded performance
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
- ID# 335547

0x7410 MLE

1. **Problem Description:** When establishing a Metro-Global-Mirror session, if A->B is established before B->C, I/O will be flowing to B during the B->C establish, exposing a microcode logic error.
 2. **Potential Impact of Problem:** Warmstart
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** Yes
- ID# 336397

High PPRC response times

1. **Problem Description:** Lock contention on PPRC secondary during write complete processing
 2. **Potential Impact of Problem:** degraded performance
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
- ID# 336501

HMC Java OutOfMemory condition

1. **Problem Description:** Missing statement.close() caused a java.lang.OutOfMemoryError condition
 2. **Potential Impact of Problem:** HMC communication failures
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
- ID# 336651

IBM System Storage - DS8880 Disk Storage

Microcode Bundle 88.41.5.0 Release Note Information

PPRC Track Format Descriptor mismatch

1. **Problem Description:** Task was aborted on primary, but completed normally on secondary
2. **Potential Impact of Problem:** PPRC Suspend
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No

ID# 336838

0x0109 MLE with IBM i hosts

1. **Problem Description:** Error during cache access while processing a Skip Read/Write command
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No

ID# 337751

Space Release issues during PPRC failover/failback

1. **Problem Description:** Improper tracking of space release may cause increased data transfer once pair is resumed.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No

ID# 337891

Service: A recoverable error, Service improvements.

0x01B7 MLE

1. **Problem Description:** Lock contention during Copy Services write intercept to set/reset track Out of Sync bit
2. **Potential Impact of Problem:** On Demand Data (ODD) dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes

ID# 330095

Unable to change array scrub rate

1. **Problem Description:** Change to array scrub rate was rejected because another resource value was incorrectly initialized.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID# 331744

Space Release failed on PPRC secondary

1. **Problem Description:** During PPRC establish, code failed to determine that the secondary system was configured with space-efficient volumes.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID# 331774

IBM System Storage - DS8880 Disk Storage

Microcode Bundle 88.41.5.0 Release Note Information

False SRC=BE33CE9C logged during warmstart

1. **Problem Description:** During warmstart, Device Adapter reset code incorrectly flags a temporary loss of access.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID# 333586

Remote login authentication fails intermittently

1. **Problem Description:** High volume of authentications, or DSCLI 'testauthpol' commands, can lead to a Java out-of-bounds condition.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID# 334449

IEA3071 on PPRC secondary devices during IPL

1. **Problem Description:** Sense Subsystem Status (SNSS) data did not accurately reflect that the PPRC secondary DS8K was in a cascading relationship.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID# 334798

DSCLI lsextpool command returns '-' value

1. **Problem Description:** Calculation of allocated extents exceeded the 32-bit maximum integer value, causing an arithmetic error
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID# 335058

SRC=BE340113 Health Check failed

1. **Problem Description:** Health check failed because a file used to track health check failures was empty
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID# 335309

CSM configuration data missing after HMC update or reload

1. **Problem Description:** If embedded Copy Services Manager has been updated using DSCLI 'installsoftware' method, and later the HMC is reloaded, or upgraded to a level that involves reload, the CSM configuration can be lost.
2. **Potential Impact of Problem:** CSM not operational
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes

ID# 335729

IBM System Storage - DS8880 Disk Storage

Microcode Bundle 88.41.5.0 Release Note Information

DS GUI removes spaces in Customer configuration fields

1. **Problem Description:** When editing callhome or administrator information fields, spaces are removed.
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
- ID# 336436

SRCs BE9B0001 and BE9B0002 do not show the image filenames

1. **Problem Description:** During Remote Code Load, SRCs BE9B0001 and BE9B0002 are used to indicate when file downloads are complete. But they do not show details of which files were downloaded.
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
- ID# 336614

CDA suspended because of open problem

1. **Problem Description:** SRC=BE14EAF1 is logged for TKLM/SKLM communication error. This should not impact Code Load, and can be ignored.
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
- ID# 336646

CMUN80293E creating IPSEC connection

1. **Problem Description:** Code could not determine that IPSEC service was running because an OS change renamed the .pid file
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
- ID# 336684

0x723E MLE

1. **Problem Description:** When deleting a Fixed Block volume, not all metadata for the volume was deleted.
 2. **Potential Impact of Problem:** On Demand Data (ODD) dump
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
- ID# 337002

java/lang/OutOfMemoryError on LPARs

1. **Problem Description:** Copy Services Commands contain too many repetitive strings
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
- ID# 337260

IBM System Storage - DS8880 Disk Storage

Microcode Bundle 88.41.5.0 Release Note Information

Unable to access DS GUI after installing Customer-supplied certificate

1. **Problem Description:** Installation process did not restart the web server
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID# 337849

DS GUI reports false Global Mirror session messages

1. **Problem Description:** DS GUI repeatedly displays false "GM session copy state changed to running" messages.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID# 338372

Improvements: Improvements for better usability

CSM backup restore enhancements

1. **Problem Description:** During HMC reload, prevent CSM from performing a backup if it has not yet been restored. Also, if a newer CSM package exists on the LPARs, install the package, and then restore the backup.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No

ID# 336382

IBM System Storage - DS8880 Disk Storage

Microcode Bundle 88.41.5.0 Release Note Information

Trademarks

The following terms are trademarks of the International Business Machines Corporation in the United States, other countries, or both.

- > AIX
- > Enterprise Storage Server
- > ESCON
- > FICON
- > i5/OS
- > iSeries
- > IBM
- > pSeries
- > S/390
- > System Storage
- > TotalStorage
- > z/OS
- > zSeries

IBM, the IBM logo, and ibm.com are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the web at Copyright and trademark information at <http://www.ibm.com/legal/us/en/copytrade.shtml>. Adobe, the Adobe logo, PostScript, and the PostScript logo are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States, and/or other countries.

Java and all Java-based trademarks and logos are trademarks or registered trademarks of Oracle and/or its affiliates.

Linux is a trademark of Linus Torvalds in the United States, other countries, or both.

Microsoft, Windows, and Windows NT are trademarks of Microsoft Corporation in the United States, other countries, or both.

© Copyright IBM Corp. 2004, 2011

Notices

This information was developed for products and services offered in the U.S.A. IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

IBM System Storage - DS8880 Disk Storage

Microcode Bundle 88.41.5.0 Release Note Information

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATIONS "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.