

IBM System Storage - DS8900F Disk Storage Microcode Bundle 89.4.8.0 Release Note Information

Release Date: November 11, 2020

VRMF Level Data Results:

VRMF level From:	89.3.6.0
VRMF Level To:	89.4.8.0
Report for:	DS8900F

Code Bundle Contents

DS8900F Code Bundle Level	SEA or LMC Version:	DSCLI Client	Heat Map Transfer Utility	Storage Manager	Copy Services Manager
89.4.8.0	7.9.4.26	7.9.4.26	7.9.4.26	5.9.4.1010	6.2.9.1

Overview of new features and functions supported by this release on DS8900F 533x models 993/994/996

At a glance:

- Code fixes

This new microcode release supports DS8900F 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: Irrecoverable error with potential loss of data. - Serious: Irrecoverable error with potential loss of access to data, or critical function.
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 - DS8900F Disk Storage

Microcode Bundle 89.4.8.0 Release Note Information

Acute: An irrecoverable error with potential loss of data.

HIPER Inconsistent SafeGuarded Backup data

1. **Problem Description:** <https://www.ibm.com/support/pages/node/6368715>
 2. **Potential Impact of Problem:** Data inconsistency
 3. **Problem Severity:** HIPER
 4. **Pervasive Problem:** No
- ID# 349398

Pinned data after power loss

1. **Problem Description:** During IML with modified data, an exposure exists where a previously queued commit may not be restored to cache.
 2. **Potential Impact of Problem:** loss of data
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
- ID# 350519

Serious: An irrecoverable error with potential loss of access to data, or critical function.

Last Device Adapter fenced

1. **Problem Description:** A microcode logic error during adapter recovery caused the only available adapter to be fenced.
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
- ID# 341982

I/O adapter failure caused multiple warmstarts

1. **Problem Description:** PCIe error recovery did not recognize that the adapter was presenting power fault
 2. **Potential Impact of Problem:** Multiple warmstarts
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
- ID# 345611

FB background task timed out

1. **Problem Description:** I/O bay PCIe issues led to I/O timeout after waiting 5 minutes for a SCSI Command to complete.
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
- ID# 345671

IBM System Storage - DS8900F Disk Storage

Microcode Bundle 89.4.8.0 Release Note Information

TCT Recall fails with Invalid Track Number

1. **Problem Description:** Transparent Cloud Tiering Recall task that spans multiple volumes may fail because a microcode logic error handling parallel recall threads.
2. **Potential Impact of Problem:** Recall job failure
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID# 350598

REST API failure after code bundle update

1. **Problem Description:** In systems running with an alternate internal IP address range, REST API requires manual intervention to restore Transparent Cloud Tiering function after code bundle update.
2. **Potential Impact of Problem:** loss of access to cloud data
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID# 350876

0x014E MLE during failback

1. **Problem Description:** Cluster failback could not complete because it could not access metadata on a quiesced rank.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID# 351315

Loss of access exposure running ESE Sizing Tool

1. **Problem Description:** If an LPAR is running the ESE Sizing Tool, and has a failure, the partner LPAR would be unable to take over, and would also fail. Once the system is recovered, copy services relations would have to be reconfigured. Exposure was discovered in code review.
2. **Potential Impact of Problem:** loss of access, loss of replication
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID# 351682

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

PPRC path inoperative after a FC link event

1. **Problem Description:** Link recovery on a PPRC path led to a Destination ID (D_ID) change in the Host Adapter port, but the old D_ID also remained, creating a duplicate entry. Condition requires manual intervention to restore the path.
2. **Potential Impact of Problem:** loss of path
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes

ID# 346912

IBM System Storage - DS8900F Disk Storage

Microcode Bundle 89.4.8.0 Release Note Information

Slow cluster hard drive

- 1. Problem Description:** A failing, but still operational, cluster hard drive caused performance impact, and cluster failover
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 347791

SAN error recovery caused PPRC suspend

- 1. Problem Description:** Fibre Channel frames arrived out of order at the PPRC secondary, but the secondary did not return out-of-order status to the primary.
- 2. Potential Impact of Problem:** PPRC Suspend
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** Yes

ID# 348117

0x1C12 MLE during Flash Drive replacement

- 1. Problem Description:** Process to remove the config of the old drive collided with the process to harvest the information from the new one.
- 2. Potential Impact of Problem:** Warmstart and LPAR failover
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 349355

Resource Managers hung on LPAR

- 1. Problem Description:** Unable to query or stop/start RMs, or quiesce/resume the LPAR, because of a deadlock between a volume delete command, and a query operation.
- 2. Potential Impact of Problem:** DSCLI command failure
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 349388

0x7D0A MLE

- 1. Problem Description:** Preserve Mirror FlashCopy command required a large buffer, so a new Task Control Block was allocated to send the command to the secondary. But the calling function could not handle a callback to the new TCB, and triggered a Microcode Logic Error
- 2. Potential Impact of Problem:** Warmstart
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 349420

IBM System Storage - DS8900F Disk Storage

Microcode Bundle 89.4.8.0 Release Note Information

Host I/O performance degradation while running FlashCopy

- 1. Problem Description:** FlashCopy runs 32 discard scans at a time, which can impact host I/O on smaller systems
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 349521

0x1D02 MLE running SafeGuarded Copy

- 1. Problem Description:** During SGC rolloff, the Device Adapter encountered an extent with an unexpected (but legal) size.
- 2. Potential Impact of Problem:** Warmstart
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 349635

DSCLI authentication failure

- 1. Problem Description:** User login timed out while synchronizing the authentication state with the peer HMC.
- 2. Potential Impact of Problem:** Unable to process commands
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 349931

False 0x2031 MLE

- 1. Problem Description:** Microcode Logic Error was triggered by a condition other than what it was designed to recover from.
- 2. Potential Impact of Problem:** Warmstart
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 350506

0x20DB MLE on zHyperLink write

- 1. Problem Description:** Compare-after-restore function encountered a false miscompare indication.
- 2. Potential Impact of Problem:** Warmstart
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 350596

IBM System Storage - DS8900F Disk Storage

Microcode Bundle 89.4.8.0 Release Note Information

Service: A recoverable error, Service improvements.

0x01B7:506A MLE

- 1. Problem Description:** Metadata lock contention on Metro Mirror secondary when it is also a Global Copy or Multi-Target Incremental Resync primary.
- 2. Potential Impact of Problem:** ODD dump
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** Yes

ID# 337694

Ambiguous HyperSwap failure sense

- 1. Problem Description:** In a HyperSwap "go to sync" failure, the sense needs an additional qualifier to clarify the reason for the failure.
- 2. Potential Impact of Problem:** Extended problem determination
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 345088

HMC code update failure

- 1. Problem Description:** HMC failed to function after code update, because a required function was not updated.
- 2. Potential Impact of Problem:** Extended code update activity
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 347978

Flash Drives rejected for SAS path errors

- 1. Problem Description:** Flash drives were incorrectly rejected for SAS path errors that were affecting multiple drives.
- 2. Potential Impact of Problem:** Extended service actions
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 348994

Closed serviceable event reappeared after an hour

- 1. Problem Description:** CDA Preload Manager process got into a deadlock trying to display "Preload complete" message to a user session that should not be receiving it.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 349130

IBM System Storage - DS8900F Disk Storage

Microcode Bundle 89.4.8.0 Release Note Information

0x1159 MLE

- 1. Problem Description:** Release Space is being called before I/O is fully quiesced for the extent
 - 2. Potential Impact of Problem:** Warmstart
 - 3. Problem Severity:** Moderate
 - 4. Pervasive Problem:** No
- ID# 349185

0x01B7:1000 MLE

- 1. Problem Description:** During 'stage grouping' on cascaded FlashCopy target, the thread may exceed the timeout limit.
 - 2. Potential Impact of Problem:** ODD dump
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 349225

HMC network description settings lost

- 1. Problem Description:** During private network IP range change procedure, a persistent information file was removed.
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 349227

Enclosure Service Module repair failure

- 1. Problem Description:** HPFE Gen2 ESM repair failed because a prior recovery left the adapter device busses in a quiesced state.
 - 2. Potential Impact of Problem:** Extended repair action
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 349576

Excessive metadata pre-stage activity

- 1. Problem Description:** On PPRC primary, a flag is not being cleared after every valid metadata pre-stage.
 - 2. Potential Impact of Problem:** Unnecessary work being done
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 350070

False SRC=BE34002B 'Out of Spares' condition

- 1. Problem Description:** A function to query predicted capacity was left open, each time it was run. Eventually enough resources were consumed, to the degree that Resource Manager functions began to fail.
 - 2. Potential Impact of Problem:** Resource Management failure
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 350490

IBM System Storage - DS8900F Disk Storage

Microcode Bundle 89.4.8.0 Release Note Information

MES install failure

- 1. Problem Description:** Drive failure during HPFE Gen2 MES install required manual intervention to complete the install.
- 2. Potential Impact of Problem:** Extended service action
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 350777

Unable to export system summary using DS GUI

- 1. Problem Description:** An empty attribute in an HMC Resource Manager object caused a number format exception.
- 2. Potential Impact of Problem:** Export function failure
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** Yes

ID# 351420

Improvements: Improvements for better usability

Enhance host health checking on secondary volumes

- 1. Problem Description:** Allow FICON Read Accessibility Mask (RAM) command to a secondary device
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Improvement
- 4. Pervasive Problem:** No

ID# 349826

SafeGuarded Copy performance enhancement

- 1. Problem Description:** Support a cascaded Global Mirror session to perform the SafeGuarded Copy. The cascaded session will form consistency groups when the primary GM is paused with consistency.

Note: Implementation requires APAR PH31059.

- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Improvement
- 4. Pervasive Problem:** No

ID# 350308

IBM System Storage - DS8900F Disk Storage

Microcode Bundle 89.4.8.0 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 - DS8900F Disk Storage **Microcode Bundle 89.4.8.0 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.