IBM System Storage - DS8900F Disk Storage
Microcode Bundle 89.1.23.0 Release Note Information v1.1

Release Date: December 13, 2019

VRMF Level Data Results:

VRMF level From:	89.0.214.0
VRMF Level To:	89.1.23.0
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
89.1.23.0	7.9.1.36	7.9.1.36	7.9.1.36	5.9.1.1016	6.2.6

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 89.1.23.0 Release Note Information v1.1

Acute: An irrecoverable error with potential loss of data.

NVDIMMs deconfigured after power loss
1. **Problem Description:** After unexpected power loss event, NVDIMM image may be corrupted on both clusters.
2. **Potential Impact of Problem:** loss of data
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID# 346171

Backup Power Module failure not detected
1. **Problem Description:** NVDIMM BPM error log entries were missed, with the result that the affected Cluster was not shutdown, and no serviceable event was created.
2. **Potential Impact of Problem:** loss of data
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID# 346191

Corrupted parity after array resync
1. **Problem Description:** Parity resync on a flash array encountered a locking issue with a host write while updating parity for the same stripe.
2. **Potential Impact of Problem:** loss of data
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID# 346606

Data miscompare exposure
1. **Problem Description:** A rare timing window, combined with a data pattern on a boundary, can lead to a host write completing to media when initialization is required, without processing and clearing the initialization required indicator.
2. **Potential Impact of Problem:** Data miscompare
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID# 346697

Data miscompare on SafeGuarded Copy recovery volume
1. **Problem Description:** Track Bitmap and Recovery Bitmap were out of sync during a host write to the recovery volume. This caused inconsistent data on the recovery volume, making it unusable.
2. **Potential Impact of Problem:** Data miscompare
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID# 346873

IBM System Storage - DS8900F Disk Storage
Microcode Bundle 89.1.23.0 Release Note Information v1.1

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

HIPER Unable to IPL from SafeGuarded Copy recovery volume
1. **Problem Description:** When using a Task Control Block with two Cache Track Requests to access a track on the recovery volume, the second access may discarded.
2. **Potential Impact of Problem:** IPL failure
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes
ID# 346511

Host bay failed auto-power-on
1. **Problem Description:** After a short-duration Power Line Disturbance, a host bay did not power on again because of a dual fan fault condition.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
ID# 346525

0x1BB5 MLE
1. **Problem Description:** Encryption key repository reads encountered lock contention between the two Clusters. May cause dual IML failure.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
ID# 346673

Multiple path failure on Linux hosts during error recovery
1. **Problem Description:** For Linux hosts, change the default Queue Error management parameter to binary '00', to allow other commands in the task set to be processed after a check condition.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
ID# 346755

IBM System Storage - DS8900F Disk Storage
Microcode Bundle 89.1.23.0 Release Note Information v1.1

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

0x790B MLE running Dataset-level cascaded FlashCopy
1. **Problem Description:** While creating and withdrawing multiple relationships, a microcode logic error was encountered in Background Copy queue management.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
ID# 341109

0x7F31 MLE
1. **Problem Description:** Fast Reverse Restore was allowed to be initiated targeting a SafeGuarded Copy source volume, that was not also a Global Mirror FlashCopy source volume.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
ID# 337401

Deconfigured NVDIMM after PHYP crash
1. **Problem Description:** After a Hypervisor crash, NVDIMMs are left with a corrupt image, and are deconfigured.
2. **Potential Impact of Problem:** Cluster IML failure
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
ID# 346139

Host Adapter 0x0B8A MLE
1. **Problem Description:** During HA fastload, failure to handle linked commands triggered a microcode logic error in the adapter.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
ID# 346953

0x7A2A MLE
1. **Problem Description:** Copy Services journal cleaner task failing with a microcode logic error, caused by syntax errors in code.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
ID# 347120

IBM System Storage - DS8900F Disk Storage
Microcode Bundle 89.1.23.0 Release Note Information v1.1

Service: A recoverable error, Service improvements.

Unable to install Customer-signed certificates using Chrome
1. **Problem Description:** Unable to upload certificate files using newer versions of Chrome browser.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes
ID# 344292

End-of-Call does not identify failed Storage Manager service
1. **Problem Description:** When running End-of-Call check, Service Representative is not notified when Storage Manager service has failed.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID# 345893

HMC console Shift+M shortcut fails
1. **Problem Description:** After opening browser, DS Storage Manager link works, but Shift+M shortcut displays an error.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID# 346048

DS GUI audit log offload fails
1. **Problem Description:** Two ESSNI functions were combined into a single .jar file in R8.5 SP1.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID# 346266

DS GUI cache resync hang
1. **Problem Description:** Volume Rebalance was stalled because it encountered out of space condition on target ranks, then restarted rather than processing the next queue.
2. **Potential Impact of Problem:** DS GUI storage manager hang
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID# 346610

IBM System Storage - DS8900F Disk Storage
Microcode Bundle 89.1.23.0 Release Note Information v1.1

Unable to login to WUI
1. **Problem Description:** WUI login fails if default "Customer" ID does not exist. (Customer ID is automatically removed when creating other users with "esshmccustomer" role.)
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes
ID# 346643

Test Callhome utility failure
1. **Problem Description:** When running Test Callhome utility, two synchronous processes conflict, causing process hang and eventual test failure.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID# 346851

Improve BPM lifetime calculations
1. **Problem Description:** NVDIMM Backup Power Module lifetime calculations were pessmistic under some environmental conditions.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID# 346478

Improvements: Improvements for better usability

None.

IBM System Storage - DS8900F Disk Storage
Microcode Bundle 89.1.23.0 Release Note Information v1.1

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.

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 89.1.23.0 Release Note Information v1.1