

IBM System Storage - DS8900F Disk Storage Microcode Bundle 89.3.6.0 Release Note Information

Release Date: August 7, 2020

VRMF Level Data Results:

VRMF level From:	89.2.40.0
VRMF Level To:	89.3.6.0
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
89.3.6.0	7.9.3.19	7.9.3.19	7.9.3.19	5.9.3.1008	6.2.8

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

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Acute: An irrecoverable error with potential loss of data.

Inconsistent data on secondary after error recovery

- 1. Problem Description:** Error recovery while forming PPRC Consistency Groups, across multiple LSSs, may result in one or more LSSs coming out of freeze earlier than the others.
- 2. Potential Impact of Problem:** Data inconsistency
- 3. Problem Severity:** High Impact
- 4. Pervasive Problem:** No

ID# 348783

Pinned non-retryable data in cache after cluster failover

- 1. Problem Description:** During failover, a narrow window exists where a task control block for a format write operation was not processed.
- 2. Potential Impact of Problem:** loss of data
- 3. Problem Severity:** High Impact
- 4. Pervasive Problem:** No

ID# 348842

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

Repeated warmstarts and LPAR reboot

- 1. Problem Description:** Device Adapter MLE processing invalid failed track logs led to repeated warmstarts, and reboot of both clusters.
- 2. Potential Impact of Problem:** loss of access
- 3. Problem Severity:** High Impact
- 4. Pervasive Problem:** No

ID# 349270

0x0632 MLE and cluster failover

- 1. Problem Description:** A microcode logic error was encountered while converting a Global Copy primary relation with change recording, to MetroMirror and start Incremental Resync.
- 2. Potential Impact of Problem:** Warmstarts, cluster failover, Possible loss of access
- 3. Problem Severity:** High Impact
- 4. Pervasive Problem:** No

ID# 349654

0x1024 MLE and dual reboot

- 1. Problem Description:** When expanding a large extents volume that does not end on an extent boundary, and had been migrated from a different geometry, the first and last track information for the last extent may be mis-calculated.
- 2. Potential Impact of Problem:** loss of access
- 3. Problem Severity:** High Impact
- 4. Pervasive Problem:** No

ID# 349898

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Multiple 32Gb Host Adapters fenced

1. **Problem Description:** zHPF Format Write with an irregular track format was mis-handled by the HA firmware. Only 32Gb adapters are susceptible to this condition.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID# 349936

Potential Loss of Access using DB2 System Backup Restore utility with Preserve Mirror

1. **Problem Description:** <https://www.ibm.com/support/pages/node/6253915>
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID# 350053

HIPER HyperSwap may fail in Cascaded Metro Global Mirror managed by CSM

1. **Problem Description:** <https://www.ibm.com/support/pages/node/6259481>
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** No

ID# 350674

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

Slow throughput running Transparent Cloud Tiering

1. **Problem Description:** Insufficient threading for TCT implementations with low per-thread bandwidth.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No

ID# 344422

XRC Suspend

1. **Problem Description:** No Record Found, or Invalid Track Format on XRC secondary, when using Remote Pair FlashCopy and/or XRC. A track update was not sent to the secondary because of improper sidefile processing.
2. **Potential Impact of Problem:** XRC Suspend
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No

ID# 345644

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FB task timeouts after cluster hardware failover

- 1. Problem Description:** After a sudden cluster down failure, PCIe error recovery may take longer than expected.
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 346864

Stuck FlashCopy relation using BackGround Copy

- 1. Problem Description:** When BGC is started and the first tracks of the target are not allocated, a timing window exists where BGC may start repeatedly on the same rank, but never move on to the next rank.
- 2. Potential Impact of Problem:** FlashCopy failure
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 347081

FlashCopy performance degradation

- 1. Problem Description:** In large configurations with heavy FlashCopy usage, the system may run out of journal resources.
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 347611

FlashCopy performance degradation with Type 2 Change Recording

- 1. Problem Description:** Requests for task control blocks to set Change Recording bits were being held up
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 347782

FlashCopy performance degradation

- 1. Problem Description:** Lock contention for In-Memory Relation Table resources while copying large volumes, or a source to two targets.
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 347783

Make journal block reclamation pokeable persistent

- 1. Problem Description:** csjrFreshMgrTimeoutSec pokeable did not persist through cluster IML.
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 347918

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Adjust data stripe destage calculations

- 1. Problem Description:** Destage code is not optimized for current stripe structure, where extents may not begin on a stripe boundary.
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 348119

Read cache performance on background copy workloads

- 1. Problem Description:** Changes made to improve cleaning of metadata extents created some unintended side-effects for sequential read operations.
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 348133

Read response times elongated by cross-cluster FlashCopy

- 1. Problem Description:** While XC FlashCopy will consume more resources, multiple locking inefficiencies were found to be contributing to the problem.
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 348371

SafeGuarded Copy Thaw while check-in is still running

- 1. Problem Description:** SGC implementations not under Copy Services Manager control may exceed the check-in default timeout.
- 2. Potential Impact of Problem:** SafeGuarded Copy Failure
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 348513

XRC suspend during cluster failback to dual

- 1. Problem Description:** If Remote Pair FlashCopy or XRC establish or withdraw occurs during a cluster failback, the session will suspend.
- 2. Potential Impact of Problem:** XRC suspend
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 349025

0x0109 MLE

- 1. Problem Description:** zHyperLink writes encountered a deadlock when Global Copy was being suspended.
- 2. Potential Impact of Problem:** I/O timeout, warmstart
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 349474

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Service: A recoverable error, Service improvements.

0x7D0E MLE running XRC or Concurrent Copy on VM with minidisks

- 1. Problem Description:** Code attempted to free a lock that was already freed.
- 2. Potential Impact of Problem:** ODD Dump
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** Yes

ID# 324851

0x7E3A MLE with Global Mirror FlashCopy

- 1. Problem Description:** Extent-Space-Efficient space release during background copy encountered a microcode logic error.
- 2. Potential Impact of Problem:** ODD Dump
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** Yes

ID# 341999

Read/Write counters are incorrectly reporting usage

- 1. Problem Description:** Interval counters may under-report sequential R/W activity
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 347829

Change of internal address range caused code upgrade failure

- 1. Problem Description:** While CDA preload was active, the internal networks were changed to an alternate address range. Subsequent code activation reverted the change on the internal servers.
- 2. Potential Impact of Problem:** Extended service action
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 347854

HMC login hang

- 1. Problem Description:** Login hangs after accepting the password containing the "%" character.
- 2. Potential Impact of Problem:** Unable to login
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 348090

AOS config panel display incorrect

- 1. Problem Description:** AssistOnSite config panel displays incorrectly when authenticated proxy is configured with a password containing "@".
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 348208

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mkarray failed with CMUN02013E

- 1. Problem Description:** In device adapter pairs with an intermix of drive capacities and speeds, an array site may become intermixed because of prior failures and subsequent repair actions. If an intermixed array is removed, the intermix condition may prevent reconfiguring the array.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 348279

HMC heartbeat callhome triggers SNMP alert

- 1. Problem Description:** If SNMP is configured for Trap 3 notifications, after the next HMC reboot, SNMP will begin also reporting Trap 13 events.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 348520

HMC Hardware API fails to start

- 1. Problem Description:** If resource manager query returns rack2 objects first, HW API may fail to start.
- 2. Potential Impact of Problem:** Unable to login to HMC
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 348614

HMC WUI fails CE and Customer login

- 1. Problem Description:** CE or Customer login returned "Invalid user name or password specified" because of a Pluggable Authentication Module (PAM) failure.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 348649

NTP server config missing after HMC update

- 1. Problem Description:** Function to remove default public NTP servers can also remove Customer-configured public NTP servers.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 348834

Flash drive errors not cleared during repair

- 1. Problem Description:** HPFE drive error counts are preserved through the replacement process, when the same drive is still in the enclosure.
- 2. Potential Impact of Problem:** Drive pseudo-repair fails
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 349062

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Non-Contiguous volume creation fails

- 1. Problem Description:** Creating volumes fails if two ranges are specified with a gap between them.
 - 2. Potential Impact of Problem:** Multiple creation actions required
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 349080

RemotePathStateChanged message incomplete

- 1. Problem Description:** Status message should display 9 fields for PPRC path status, but only 8 are shown.
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 349226

Transparent Cloud Tiering time out with no error message

- 1. Problem Description:** When an abort is received, TCT waits for the pipe to empty before posting a message
 - 2. Potential Impact of Problem:** ODD Dump
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 349337

SCSI DISK_ERR5 messages on AIX host

- 1. Problem Description:** When performing a write same unmap command, DS8K does not receive a data block from the host before starting the unmap.
 - 2. Potential Impact of Problem:** Host errors
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 349562

Improvements: Improvements for better usability

Improve DS GUI performance graph accuracy

- 1. Problem Description:** Add Read Physical Disconnect Time and Write Physical Disconnect time to Device Performance Statistics.
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Improvement
 - 4. Pervasive Problem:** No
- ID# 346042

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Improve storage enclosure cable check

- 1. Problem Description:** Storage enclosure mis-cabling during field install
- 2. Potential Impact of Problem:** Extended install duration
- 3. Problem Severity:** Improvement
- 4. Pervasive Problem:** No

ID# 349842

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