

IBM System Storage - DS8880 Disk Storage

Microcode Bundle 88.59.8.0 Release Note Information

Release Date: July 30, 2021

VRMF Level Data Results:

| | |
|------------------|------------|
| VRMF level From: | 88.58.3.0 |
| VRMF Level To: | 88.59.8.0 |
| 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 |
|--------------------------|---------------------|--------------|---------------------------|-----------------|-----------------------|
| 88.59.8.0 | 7.8.59.22 | 7.8.59.22 | 7.8.59.22 | 5.8.59.1010 | 6.2.12 |

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: 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.

None.

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

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

Loss of access caused by extended PCIe error recovery

- 1. Problem Description:** CPC PCIe adapter hardware failure caused LPAR failover, and extended I/O enclosure PCIe recovery.
- 2. Potential Impact of Problem:** loss of access
- 3. Problem Severity:** High Impact
- 4. Pervasive Problem:** No

ID# 352893

Repeated track ID mismatch, 0x4433 MLE, and Host Adapter fence

- 1. Problem Description:** An unusual CKD command chain exposed a microcode logic error in Host Adapter code.
- 2. Potential Impact of Problem:** loss of access
- 3. Problem Severity:** High Impact
- 4. Pervasive Problem:** No

ID# 353928

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

NVS queueing when it is not full

- 1. Problem Description:** Large number of Flash Copy source tracks in NVS did not trigger destage
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 342575

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HMC filesystem full

- 1. Problem Description:** /tmp filesystem is filling up with NICacheEvent files
- 2. Potential Impact of Problem:** HMC failure
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 348877

0x01B7:5083 MLE

- 1. Problem Description:** Task timeout caused by excessive sidefile lock contention.
- 2. Potential Impact of Problem:** ODD Dump
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** Yes

ID# 349736

IEA491E PPRC Suspended

- 1. Problem Description:** PPRC suspend after creation of new pairs, if the first I/O is a two-track (Torn Page) atomic write.
- 2. Potential Impact of Problem:** PPRC suspend with freeze
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 350891

No callhome after I/O enclosure fenced

- 1. Problem Description:** Hardware resource was fenced, but no serviceable event was created.
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 351183

Host Adapter Header bad CRC

- 1. Problem Description:** During an XRC read operation, the Host adapter detected an invalid Cache Record Control Block header.
- 2. Potential Impact of Problem:** Warmstart
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 351247

Incorrect FRU call-out for PCIe link errors

- 1. Problem Description:** Serviceable event called out a FRU that was not part of the error domain.
- 2. Potential Impact of Problem:** Repeated service actions
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 351270

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Repeated 0x20EC MLEs

- 1. Problem Description:** During warmstart processing, a timing window exists where NVS and Cache SafeGuarded Copy metadata may end up out of sync.
- 2. Potential Impact of Problem:** Warmstarts, single LPAR reboot
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 351750

Performance (RPO) Degradation

- 1. Problem Description:** Potential performance degradation in systems with large number of CPUs, caused by bitmap locking contention.
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 351934

I/O delays on some Linux hosts during microcode update

- 1. Problem Description:** During Failover/Failback, and Host Adapter Fastload, systems with 16Gb and 32Gb adapters terminate the Fiber Channel exchange without sending an abort sequence.
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 352227

Unable to login to DS GUI

- 1. Problem Description:** HMC was continually trying to communicate with a disconnected DS CLI session, causing the message router queue to become full.
- 2. Potential Impact of Problem:** Login failure
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 352690

Performance impact running mkflash from IBM i

- 1. Problem Description:** Host I/O was impacted by large numbers of Unit Attentions (State Change Interrupts) sent to the host.
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 352819

SRC BE1E2170 deadlock while performing SafeGuarded Copy

- 1. Problem Description:** A task was holding an exclusive lock on a metadata track, while waiting in queue behind other tasks, that also needed access to that same metadata track.
- 2. Potential Impact of Problem:** Warmstart
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 353029

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Host Adapter 0xB03E MLE

- 1. Problem Description:** Periodic test I/O was sent to a PPRC path that was in High Failure Rate state, but the port had been taken offline.
- 2. Potential Impact of Problem:** Warmstart
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 353058

Global Mirror session shows as cascaded instead of Multi-Target

- 1. Problem Description:** Attempt was made to create a MTIR pair where one already existed for the same volume pairs. This caused the original MTIR pairs to be set to cascaded.
- 2. Potential Impact of Problem:** Full copy of data
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 353239

Enforce minimum SafeGuarded Copy multiplier value

- 1. Problem Description:** Change SafeGuarded Copy minimum multiplier value to 1.5.
- 2. Potential Impact of Problem:** SGC 'out of space' failure
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 353447

Global Copy/Global Mirror performance degraded

- 1. Problem Description:** PPRC performance impacted by overly aggressive pre-staging of Customer data tracks.
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 353463

Old CSM backup restored during manual version update

- 1. Problem Description:** When using DS CLI 'installsoftware' to manually update to a newer Copy Services Manager version, an incorrect backup was restored.
- 2. Potential Impact of Problem:** Revert CSM configuration changes
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** Yes

ID# 353660

0x05E0 MLE

- 1. Problem Description:** A data track was moved from the cache fast write list, to destage wait list, while safe data commit scan was attempting to destage the track.
- 2. Potential Impact of Problem:** Warmstart
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 354148

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Latency Spikes while running SafeGuarded Copy

- 1. Problem Description:** High SGC activity, combined with lock contention on the backup volumes, consumed NVS space, impacting production workload.
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 354245, 354928

Service: A recoverable error, Service improvements.

zHyperLink wrap test missing prompt

- 1. Problem Description:** While running a zHyperLink wrap test, SSR was not prompted to install the wrap plug.
- 2. Potential Impact of Problem:** Repair/Verify failure
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 351966

Encryption key retrieval failures

- 1. Problem Description:** When periodic key retrieval delivered invalid certificate data, ESSNI failed to return an error indication, because of a NegativeArraySize exception.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 352068

SAN 'feping' utility fails on newer Host Adapters

- 1. Problem Description:** Extended Link Service Echo command returns "not supported" response on 16Gb and 32Gb host adapters.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 352177

0x01B7:1000 MLE

- 1. Problem Description:** Insufficient retries allowed for NVS Track ID list lock spin processing.
- 2. Potential Impact of Problem:** ODD Dump
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 353730

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Incorrect FRU list order

- 1. Problem Description:** HPFE Gen2 midplane VPD error incorrectly prioritizes Expander module replacement before the midplane.
- 2. Potential Impact of Problem:** Repeated service actions
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 353886

mkaliasvol fails with CMUN04003E error

- 1. Problem Description:** Creating multiple CKD alias volumes may trigger an internal Resource Manager core dump, if the RM exceeds available resources.
- 2. Potential Impact of Problem:** Failure to create PAVs
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 354071

SRC BE19005A caused by RPC register corruption

- 1. Problem Description:** While running a procedure to recover the Storage Facility Resource Manager configuration to the HMC, parallel threads were accessing the same RPC register location, leading to corrupted register contents.
- 2. Potential Impact of Problem:** Repeated repair actions
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 354545

Improvements: Improvements for better usability

Remove EMC super administrator HMC role

- 1. Problem Description:** Remove HMC role that is no longer used.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Improvement
- 4. Pervasive Problem:** No

ID# 350825

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