IBM System Storage - DS8880 Disk Storage
Microcode Bundle 88.42.7.0 Release Note Information

Release Date: March 1, 2019

VRMF Level Data Results:

VRMF level From:	88.41.5.0
VRMF Level To:	88.42.7.0
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
88.42.7.0	7.8.42.24	7.8.42.24	7.8.42.24	5.8.42.1011	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

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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.

HPFE Gen2 dual adapter resets
1. **Problem Description:** Single flash drive failure led to multiple dual adapter resets
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
ID# 339272

Repeated 0x4422 MLEs
1. **Problem Description:** An unusual (but legal) sequence of Format Write/Locate Record Erase commands can trigger repeated warmstarts that may escalate to cluster failover and loss of access.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
ID# 340203

Loss of access during LPAR quiesce
1. **Problem Description**: In systems with "6 PCIe port" I/O bay hardware, if zHyperLink is not installed, a PCIe link to an internal switch may be down. During LPAR quiesce, multiple of these unused links could trigger PCIe fabric errors, that may lead to a loss of access.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
ID# 340395

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

Performance degradation when one MTMM leg is suspended
1. **Problem Description:** In Multi-Target Metro Mirror configuration, using zHyperWrite, when one of the target relationships is suspended, the MTMM primary shows some increase in disconnect times.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
ID# 332739

0xB11D MLE during Host Adapter fastload
1. **Problem Description:** PPRC link error recovery during Lights-On HA FastLoad exposed a microcode logic error in the path redrive function
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
ID# 333183

0x552C MLE
1. **Problem Description:** A timing condition was exposed when an abort request occurred at the same time as a datamover allocation request
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
ID# 335151

0x7D0E MLE
1. **Problem Description:** A race condition between threads caused a process control lock to be released twice.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
ID# 336221

0x7200 MLE
1. **Problem Description:** A locking issue led to code checking a Concurrent Copy volume bitmap that no longer existed.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
ID# 337053

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HA path fail after warmstart
1. **Problem Description:** Abort during Process Logout phase left behind a stale exchange, preventing link cleanup.
2. **Potential Impact of Problem:** loss of path
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
ID# 338688

0x0109 MLE
1. **Problem Description:** Lock contention while processing the low-priority PPRC wait queue
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
ID# 338866

IOS071I Start Pending when establishing Metro Mirror pair(s)
1. **Problem Description:** During first pass volume copy, systems running DB2 Castout Accelerator,
   and zHPF write chains with multiple domains, may log:
   IOS071I ... START PENDING STATUS: I/O OPERATION IS EXECUTING and
   IOS071I ... START PENDING STATUS: I/O WAITING FOR EXTENT CONFLICT
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
ID# 339203

CMUN80519E when modifying an existing PPRC pair
1. **Problem Description:** When modifying an existing PPRC pair to enable Multi-Target or to start/stop Metro Global Mirror-Incremental Resync, internal logic flags are set incorrectly.
2. **Potential Impact of Problem:** Cannot establish a Multi Target pair or send a Release Space command to the secondary
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
ID# 339686

0x0B8A MLE and Host Adapter reboot
1. **Problem Description:** z System aborted during a zHPF transfer with > 55 records, triggering a Host Adapter DSI and HA reboot
2. **Potential Impact of Problem:** loss of path
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
ID# 339936

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0x01B7 and 0x7D13 MLEs
1. **Problem Description:** Global Mirror subsystem query operations are taking a higher-level lock than necessary, leading to lock contention.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
ID# 339978

Service: A recoverable error, Service improvements.

0x1C14 MLE
1. **Problem Description:** Internal NTP adjustment of LPAR time may cause Device Adapter utilities to report a negative runtime duration
2. **Potential Impact of Problem:** ODD dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes
ID# 333857

Auto-Offload PE package incomplete
1. **Problem Description:** Auto-offload process sent the PE package before all compress operations were completed.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID# 336710

SRC=BE3825A8 FRU list incomplete
1. **Problem Description:** PCIe link failure SRC=BE3825A8 included the PCIe adapters in the CEC and I/O bay, but did not include the PCIe cable that connects between them
2. **Potential Impact of Problem:** Extended service actions
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID# 336848

Serious alert, but no callhome
1. **Problem Description:** Callhome of the event was left disabled by a prior failed repair attempt that was aborted by HMC reboot.
2. **Potential Impact of Problem:** Callhome failure
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID# 337554

Expand FRU list for SRC=BE316003
1. **Problem Description:** Improve FRU call for transient LRC errors on Device Adapter loops
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID# 337555

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zHyperLink transceiver wrap error
1. **Problem Description:** Wrap test continually failed because cumulative wrap test link error counters were not being cleared.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID# 338830

Remote syslog message flood
1. **Problem Description:** Incorrect HMC rsyslog rule order
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID# 339450

0x01B7 MLE
1. **Problem Description:** In systems with "6 PCIe port" I/O bay hardware, if zHyperLink is not installed, a variable does not get initialized. This condition may cause bay heartbeat to time out on a locking exception.
2. **Potential Impact of Problem:** ODD Dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID# 339729

ODD Data Collection Timeout
1. **Problem Description:** Changes made to support zHyperLink data collection may cause the data collection to exceed the timeout value.
2. **Potential Impact of Problem:** ODD data collection failure
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID# 339887

Incorrect Copy Services User access controls
1. **Problem Description:** Users with "Copy Services User" role are able to view and export log data that they should not be able to access.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID# 340362

0x01B7 MLE
1. **Problem Description:** Lock contention caused by many query functions taking a lock they do not need to take;
2. **Potential Impact of Problem:** ODD dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID# 340430

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Improvements: Improvements for better usability

Improve DA LRC checking
1. **Problem Description:** Change CKD LRC strategy from per-track to per-record.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
ID# 338865

Remove HMC warning popup
1. **Problem Description:** Remove unnecessary warning message that displays when performing a repair action using an HMC that is not acting as Problem Analysis primary.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
ID# 339498

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