

IBM System Storage - DS8880 Disk Storage Microcode Bundle 88.59.19.0 Release Note Information

Release Date: October 28, 2021

VRMF Level Data Results:

VRMF level From:	88.59.8.0
VRMF Level To:	88.59.19.0
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
88.59.19.0	7.8.59.64	7.8.59.64	7.8.59.64	5.8.59.1023	6.3.0

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.

MTIR relations missing after a region swap-back

- 1. Problem Description:** MultiTarget Incremental Resync relationships could not be created because there were no free primary relationship entries. Original Relation IDs still existed in the control structures, but were not reused.
- 2. Potential Impact of Problem:** Loss of Copy Services function
- 3. Problem Severity:** High Impact
- 4. Pervasive Problem:** No

ID# 354951

Repeated 0x7002 MLEs and dual-cluster reboots

- 1. Problem Description:** A MultiTarget FlashCopy operation encountered an out-of-space condition on one of the targets, but an incorrect return code was generated.
- 2. Potential Impact of Problem:** loss of access
- 3. Problem Severity:** High Impact
- 4. Pervasive Problem:** No

ID# 355247

Multiple 0x4809 Host Adapter MLEs

- 1. Problem Description:** Unexpected zHPF command chain triggered multiple microcode logic errors and loss of access, because the commands were allowed to keep retrying.
- 2. Potential Impact of Problem:** loss of access
- 3. Problem Severity:** High Impact
- 4. Pervasive Problem:** No

ID# 355867

Failing V-RAID adapter led to loss of access

- 1. Problem Description:** V-RAID adapter was still functional but sending Unit Check sense, that should have caused the adapter to be fenced.
- 2. Potential Impact of Problem:** loss of access
- 3. Problem Severity:** High Impact
- 4. Pervasive Problem:** No

ID# 356136

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Performance impact during SafeGuarded recover operation

- 1. Problem Description:** During recover, SGG needs to search all backups that precede the recovery point, to find each track of interest. Each search thread may take up to 10mS, which may starve other processes. It also can prevent ODD dump scanloop quiesce from completing within the allowed 8mS, leading to one or both LPARs failing to collect dumps. Fix provides a persistent poke to reduce maximum thread duration to 5mS.
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** High Impact
- 4. Pervasive Problem:** No

ID# 356210

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

RESTful API query fails with SRC=BE7A0000

- 1. Problem Description:** In systems with CKD volumes, RESTful queries /api/v1/volumes, and /api/v1/pools/P0/volumes, fail when Parallel Access Volumes (PAVs) are present.
- 2. Potential Impact of Problem:** Unable to use RESTful API scripts
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** Yes

ID# 351371

I/O timeout while withdrawing FLC relation

- 1. Problem Description:** While withdrawing an incremental FlashCopy relation with type 2 change recording, a write command to the Fixed Block source volume was delayed for ~10 seconds.
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 352226

Write command to FLC target fails with I/O error

- 1. Problem Description:** FlashCopy target returns write inhibit error on a read-only volume. New flag is being added to Sense Subsystem Data (SNSS) response, to notify the host that the volume is read-only.
- 2. Potential Impact of Problem:** Unnecessary error recovery
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 352996

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SafeGuarded Copy roll-off does not send an event

- 1. Problem Description:** Old SGC backups are being pruned without proper notification of SGC space constraints, and the resulting roll-off.
- 2. Potential Impact of Problem:** Oldest backups removed without notification.
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 353482

GM RPO target exceeded

- 1. Problem Description:** A Global Mirror sync priority handling improvement may, in rare cases, adversely affect smaller sessions. Fix provides an optional poke to revert to the prior behavior
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 353497

0x26D0 MLE

- 1. Problem Description:** An out-of-space condition caused the write task to abort, but a child process had not yet finished it's work.
- 2. Potential Impact of Problem:** Warmstart
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 353834

IOS071I Missing Device End

- 1. Problem Description:** Missing Device End or command timeouts during a FlashCopy withdraw or SafeGuarded Copy Recovery, that starts BackGround Copy to a large Extent-Space-Efficient target volume.
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** Yes

ID# 354451

0x0632 MLE and single LPAR reboot while formatting IBMi LUNs

- 1. Problem Description:** While formatting a large number of LUNs, a local variable truncated the Task Control Block counter.
- 2. Potential Impact of Problem:** Unable to complete formatting tasks
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 354511

Reduce lock contention in QuickInit code

- 1. Problem Description:** Lock contention causing FlashCopy latency spikes.
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 354585

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0x7F0E MLE

- 1. Problem Description:** A copy services Task Control Block was freed before the owning task had presented its completion status.
- 2. Potential Impact of Problem:** Warmstart
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 354656

Provide pokes to control Safe Data Scan timing

- 1. Problem Description:** Provide a poke to enable setting of safe data scan to run at a specified time.
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 354904

Global Mirror session failed after issuing FlashCopy command

- 1. Problem Description:** FLC establish and withdraw commands, while system is doing single-cluster IML, will fail with 0F37 sense, causing the GM session to fail.
- 2. Potential Impact of Problem:** Loss of Global Mirror function
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 355210

LPAR booted from the wrong bos image after FSP replacement

- 1. Problem Description:** Multiple FSP replacements occurred, but code only auto-corrected the bos image pointer one time.
- 2. Potential Impact of Problem:** Extended service action
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 355226

Long IBMi IPL times

- 1. Problem Description:** Volume status requests were being delayed because of indications the volumes were in a PPRC relation that was being suspended.
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 355659

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Service: A recoverable error, Service improvements.

0x7E38 MLE

- 1. Problem Description:** Remote Pair FlashCopy fail, with multiple extents having the same source and target volume, triggered a Microcode Logic Error.
- 2. Potential Impact of Problem:** ODD dump
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** Yes

ID# 352133

SafeGuarded Copy volumes are included in overall volume count

- 1. Problem Description:** In DS GUI and DS CLI, Logical Corruption Protection volumes should be hidden from volume queries.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 352598

Unexpected SF shutdown during repair

- 1. Problem Description:** During a non-concurrent Storage Enclosure midplane replacement, in a small configuration, repair code incorrectly determined the repair would remove the last path to Global Metadata.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 354497

0x01B7:501D and :702E MLEs

- 1. Problem Description:** Write Intercept command chain exceeded the timeout limit while trying to obtain a lock.
- 2. Potential Impact of Problem:** ODD dump
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 355218

0x01B7:50AA MLE

- 1. Problem Description:** When comparing/changing volume group pages for SCSI mask hosts, an error processing bitmaps caused unnecessary processing to be done.
- 2. Potential Impact of Problem:** ODD dump
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 355394

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Negative raw capacity values in DS GUI and Storage Insights

- 1. Problem Description:** In very large systems, raw capacity may exceed the bounds of an integer variable field, resulting in arithmetic error, and a negative result is shown.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 355524

False SRC=BE340073 logged during flash drive failure

- 1. Problem Description:** RAS was attempting to remove an unhealthy Flash Drive from an array, but hardware RAID manager had already rejected it.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 355626

HMC Customer network routing config lost

- 1. Problem Description:** In HMCs with the dual-Customer-NIC RPQ, routing configuration may not persist after an HMC reboot or reload.
- 2. Potential Impact of Problem:** Cannot access HMC remotely
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 356089

Improvements: Improvements for better usability

None.

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