

# **IBM System Storage - DS8870 Disk Storage**

## **Microcode Bundle 87.51.63.0 Release Note Information v1.1**

Release Date: November 16, 2016

### **VRMF Level Data Results:**

<b>VRMF level From:</b>	<b>87.51.52.0</b>
<b>VRMF Level To:</b>	<b>87.51.63.0</b>
<b>Report for:</b>	<b>All DS8870</b>

### **Code Bundle Contents**

<b>DS8000 Code Bundle</b>	<b>SEA or LMC</b>	<b>DSCLI Client</b>	<b>STAT Tool</b>	<b>Easy Tier Client</b>	<b>Heat Map Transfer Utility</b>	<b>Storage Manager Code Level</b>
<b>87.51.63.0</b>	<b>7.7.51.1400</b>	<b>7.7.51.1400</b>	<b>7.7.51.1400</b>	<b>7.7.51.1400</b>	<b>7.7.51.1400</b>	<b>5.7.51.1070</b>

Overview of new features and functions supported by this release on DS8870 242x model 961

### **At a glance:**

- Improvements
- Bug fixes

**This new microcode release supports DS8870 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:**

<b>1</b>	<b>High Impact</b>	- Acute: An irrecoverable error with potential loss of data. - Serious: An irrecoverable error with potential loss of access to data.
<b>2</b>	<b>Moderate</b>	- A function not operational and/or performance might be degraded.
<b>3</b>	<b>Service</b>	- A recoverable error (no impact) and service improvements.
<b>4</b>	<b>Improvements</b>	- 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.**

#### **Incomplete list of bad sectors**

1. **Problem Description:** When processing the list of bad sectors during rank rebuild, the list may be incomplete if it is processed before the rank is back online. Full extent of data loss will be unknown.
2. **Potential Impact of Problem:** A host scan of the potentially affected volume(s) is required.
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID#: 319245

### **Serious: An irrecoverable error with potential loss of access to data.**

#### **Repeated warmstarts after processor memory riser failure**

1. **Problem Description:** Hardware failure in one cluster reduced it's available processor memory by half, exposing a memory management microcode error.
1. **Potential Impact of Problem:** loss of access
2. **Problem Severity:** High Impact
3. **Pervasive Problem:** No

ID#: 312745

#### **Repeated PCIe fabric errors caused LoA**

1. **Problem Description:** During LPAR failover/failback, PCIe fabric errors on the failing LPAR can cause a loss of the last Device Adapter path.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID#: 312929

#### **Loss of access during Device Adapter replacement**

1. **Problem Description:** Temporary loss of access may occur during DA replacement in a large configuration, because of a microcode logic error.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID#: 315732

#### **Adapter showstop errors on both Device Adapters**

1. **Problem Description:** A microcode logic error triggered repeated showstop errors on both DAs in the pair.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID#: 315843

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### **Unit check returns invalid SCSI sense data**

1. **Problem Description:** Unit check sense data for LRC and Sequence Number errors is all zeros
2. **Potential Impact of Problem:** May cause unexpected host errors
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID#: 319253

### **0x60CA timeout MLE**

1. **Problem Description:** Multiple microcode logic timeout errors were triggered by a specific CCW chain:  
CCW RC/RCMT with ccwByteCount=8, followed by  
Data Chain CCW RC/RCMT with any ccwByteCount
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID#: 320238

### **HIPER Global Mirror stops forming consistency groups after volume removal**

1. **Problem Description:** <http://www-01.ibm.com/support/docview.wss?uid=ssglS1009636>
2. **Potential Impact of Problem:** Global Mirror error
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** No

ID#: 322264

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

### **MT-PPRC pairs could not be deleted**

1. **Problem Description:** Unable to delete pairs when paths are no longer defined, because placeholder CU serial number does not match.
2. **Potential Impact of Problem:** Extended Global Mirror recovery
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No

ID#: 309151

### **0x5504 MLE**

1. **Problem Description** Microcode logic error triggered by PPRC datamover task timeouts. Fix will prioritize datamover tasks before they time out.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No

ID#: 312774

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### **Easy Tier volume assignments missing on one LPAR after CDA**

1. **Problem Description:** Volumes assigned to a single tier may revert to multi-tier after CDA, because of a microcode logic error.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No

ID#: 313228

### **0x014E MLE during CDA**

1. **Problem Description:** A microcode logic error may occur when ESE volume space release occurs during CDA
2. **Potential Impact of Problem:** Warmstart, CDA suspend
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No

ID#: 315971

### **Multiple 0x1C14 MLEs**

1. **Problem Description:** A specific flash card failure exposed a microcode logic error processing the enclosure disk list.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No

ID#: 317477

### **Very high sequential workloads affect random performance**

1. **Problem Description:** With very high sequential workloads, cache hit ratios can decline for random workloads. Fix provides an optional persistent pokeable to increase retention of random workload tracks in cache.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No

ID#: 317717

### **LPAR DSI and failover during I/O bay repair**

1. **Problem Description:** DSI caused by a microcode logic error while updating bay firmware
2. **Potential Impact of Problem:** Warmstart, degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No

ID#: 318189

### **Unable to remove FlashCopy relationship**

1. **Problem Description:** A volume with format in process was interrupted by an unrelated warmstart. After the warmstart, the format was still in process, but did not actually resume.
2. **Potential Impact of Problem:** Unable to remove FLC relationship
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No

ID#: 318448

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### **Performance impact during Flash Card firmware update**

1. **Problem Description:** Flash Card failed while downloading firmware, causing command timeouts. This impacted Flashcopy synchronous destage.
2. **Potential Impact of Problem:** degraded performance, warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No

ID#: 318889

### **0x740D MLE**

1. **Problem Description:** Global Mirror write thread encountered an invalid device ID because of a microcode logic error.
2. **Potential Impact of Problem:** Warmstarts
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No

ID#: 318952

### **0x1101 MLE during failback**

1. **Problem Description:** During failback after CDA update of first LPAR, an internal timestamp mismatch triggered a microcode logic error.
2. **Potential Impact of Problem:** Warmstart, CDA suspend
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No

ID#: 319639

### **zLinux path errors during CDA**

1. **Problem Description:** zLinux does not support the default QERR setting in DS8K, for fibre channel SCSI events. Fix maps zLinux to the 'nSeries' initiator type, which provides the correct QERR behavior.
2. **Potential Impact of Problem:** loss of path
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No

ID#: 320116

## **Service: A recoverable error, Service improvements.**

### **Network Interface server event queue wrapped**

1. **Problem Description:** GUI may not accurately reflect the current system state.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 302466

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### **Rack attention LED stays lit after CEC repair**

1. **Problem Description:** Rack attention LED stays lit because of a p7 system firmware error.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 305593

### **Expansion Rack installation failure**

1. **Problem Description:** Rack install fails if battery last charge date is greater than 8 months.
2. **Potential Impact of Problem:** Extended maintenance window
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 307621

### **Secure Data Overwrite failure**

1. **Problem Description:** No completion certificate generated if overwrite process fails on HMC drive.
2. **Potential Impact of Problem:** Extended SDO process
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 307647

### **Dual HMC sync problems**

1. **Problem Description:** When dual HMCs both start up together, Problem Analysis primary domain assignment process may never finish.
2. **Potential Impact of Problem:** Serviceable Event callhome failure
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 315282

### **'Event List Trimmed' messages in DS GUI**

1. **Problem Description:** Excessive 'Event List Trimmed' messages, and some also have misleading descriptions.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 316046

### **No auto-logout after policy change**

1. **Problem Description:** After changing login policy from local to remote, the local user is not automatically logged out
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 316977

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### **Update Assist OnSite fixpack**

- 1. Problem Description:** AOS fixpack resolves certain types of connection failures.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID#: 317789

### **Incorrect logging of 16Gb HA link counters**

- 1. Problem Description:** Host Adapter ports logging incorrect send\_buffer\_zero counts because of a microcode logic error.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID#: 317802

### **Improve remapping of host port definitions**

- 1. Problem Description:** Version of DS GUI introduced in r7.4 requires a one-time remap of open system host port definitions. Fix provides an improved method to perform this task.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** Yes

ID#: 317950

### **Multiple call-home for a single serviceable event**

- 1. Problem Description:** HMC problem analysis may not properly determine that a serviceable event was already called in.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID#: 318252

### **Secure Data Overwrite failure**

- 1. Problem Description:** CEC hard drive mirroring could not be terminated because a member drive was not in a good state. Fix will perform additional checks prior to beginning SDO.
- 2. Potential Impact of Problem:** Extended SDO process
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID#: 318506

### **Unable to resume LPAR after repair**

- 1. Problem Description:** LPAR failed during CDA. After repair, LPAR would not resume to dual.
- 2. Potential Impact of Problem:** Extended service window
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID#: 318602

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### **Dual HMC clocks drifting apart**

- 1. Problem Description:** SNTP is not starting because of changes to the internal version information.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID#: 319309

### **SRC=BE190009 displays incorrect text**

- 1. Problem Description:** HMC text description does not use same terminology as Knowledge Center.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID#: 319337

### **NI Client out of memory error**

- 1. Problem Description:** When a connection failure occurs, server is retrying too quickly
- 2. Potential Impact of Problem:** None
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID#: 319404

### **Serviceable event location code label incorrect**

- 1. Problem Description:** Location code incorrectly labeled "serial number"
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID#: 319787

### **Excessive "VOLSER changed" messages**

- 1. Problem Description:** GUI is polling for VOLSER changes, but is logging even when the VOLSER did not change.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** Yes

ID#: 319969

### **VRAID adapter serial numbers not updated**

- 1. Problem Description:** During VRAID adapter repair, enclosure serial number and firmware level are not updated in the new adapter.
- 2. Potential Impact of Problem:** Manual update required
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** Yes

ID#: 320106



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### **Stale data in heartbeat callhome**

1. **Problem Description:** Heartbeat snap data was collected from the wrong location
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 320320

### **lsddm displays incorrect DDM model information**

1. **Problem Description:** DSCLI appends capacity after the DDM family info which results in incorrect model info
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 320767

### **VRAID adapter fan failure**

1. **Problem Description:** Threshold for fan failures is too low, resulting in difficulty differentiating between false triggers and real failures.
2. **Potential Impact of Problem:** Unnecessary service actions
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 321813

## **Improvements: Improvements for better usability**

### **Show volume GUID in DS GUI and DSCLI**

1. **Problem Description:** Show GUID in volume properties dialog and exported summary, and also in DSCLI lsfbvol output
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No

ID#: 320507, 320602

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