

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

## **Microcode Bundle 87.51.93.0 Release Note Information v1**

**Release Date:** July 21, 2017

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

|                         |                   |
|-------------------------|-------------------|
| <b>VRMF level From:</b> | <b>87.51.81.0</b> |
| <b>VRMF Level To:</b>   | <b>87.51.93.0</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>87.51.93.0</b>         | <b>7.7.51.2450</b> | <b>7.8.23.87</b>    | <b>7.7.51.2450</b> | <b>7.7.51.2450</b>      | <b>7.7.51.2450</b>               | <b>5.7.51.1113</b>                |

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

### **At a glance:**

- Unified DSCLI version
- Remote Code Load support
- 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.<br>- 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.**

None.

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

### **0x014E MLE during LPAR quiesce**

1. **Problem Description:** PPRC context wait queue locking issue caused a microcode logic error during quiesce of an LPAR. This may cause a brief loss of access.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID#: 308651

### **Loss of access during VRA replacement**

1. **Problem Description:** When replacing a V-RAID Adapter, the array ownership was not transferred back to the new adapter
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID#: 322318

### **0x2527 MLE and fenced Host Adapters**

1. **Problem Description:** When the system detects a physical address mismatch in metadata, it is incorrectly fencing HAs instead of failing over to the partner LPAR.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID#: 323502

### **'IEA497I PERMANENT I/O ERROR' during Flashcopy establish**

1. **Problem Description:** Establishing a Multiple Incremental relationship on an existing Persistent FLC pair, may result in PARTNER\_OFFLINE sense.
2. **Potential Impact of Problem:** May trigger Hyperswap
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID#: 324600

### **Extended I/O hang during Device Adapter firmware recovery**

1. **Problem Description:** While a DA is in firmware error recovery, a secondary error on the partner DA can increase the duration of the overall recovery.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID#: 325336

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

### **0x1155 MLE**

1. **Problem Description:** A locking exception within a small timing window caused a mismatch between segment tables
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No

ID#: 310101

### **0x01B7 MLE allocating ESE volumes**

1. **Problem Description:** When allocating Extent Space-Efficient volumes, management processes may exceed the lock timeout duration.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes

ID#: 310866

### **RPO increased after code load**

1. **Problem Description:** Copy Services metadata pre-stage function was not pre-staging enough metadata tracks
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No

ID#: 317758

### **PPRC suspend during cluster resume**

1. **Problem Description:** PPRC path management failed to properly resume paths
2. **Potential Impact of Problem:** PPRC suspend
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes

ID#: 319201

### **0x5039 MLE during volume unmap**

1. **Problem Description:** Quiesce requests for full-volume SCSI write same/unmap commands use the full-volume quiesce logic, which does not work for unmapped
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No

ID#: 320538

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### **PPRC pair suspend while processing Write Same command**

1. **Problem Description:** PPRC primary that supports Write Same command may not properly determine whether that command is also supported by the PPRC secondary. Affects installations where PPRC secondary is running a LIC bundle level lower than R7.1.
2. **Potential Impact of Problem:** PPRC suspend
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No

ID#: 321198

### **0x522F MLE when > 4096 datamovers on a PPRC port**

1. **Problem Description:** When a PPRC port exceeds 4096 datamovers, a microcode logic error incorrectly triggers a warmstart
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No

ID#: 322637

### **FHD devices remain fenced after CEC hard drive rebuild**

1. **Problem Description:** After rebuilding the CEC hard drives, the FireHose Dump devices were fenced again by the partner LPAR, preventing resume to dual-cluster mode.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No

ID#: 325945

### **DA Async Secondary mode is not enabled on PPRC 'C' system**

1. **Problem Description:** In 'ABCD' PPRC environment, DA Async Secondary mode could not be enabled, because the volumes are also Global Copy primary for the 'D' system.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes

ID#: 327045

### **Unable to recover lost paths**

1. **Problem Description:** Alias devices were removed while still online. System continued to attempt to write to those devices. When the operation failed, Sequence Buffer Memory was not being freed.
2. **Potential Impact of Problem:** loss of path
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No

ID#: 328572

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

#### **DS GUI unable to delete an extent pool**

1. **Problem Description:** Removal of an empty extent pool failed with CMUN02258E message, saying ranks were still assigned.
  2. **Potential Impact of Problem:** none
  3. **Problem Severity:** Service
  4. **Pervasive Problem:** No
- ID#: 311843

#### **DSCLI will not install in Windows 10 environment**

1. **Problem Description:** DSCLI installer using an older version of InstallAnywhere that is not compatible with Windows 10
  2. **Potential Impact of Problem:** none
  3. **Problem Severity:** Service
  4. **Pervasive Problem:** No
- ID#: 314695

#### **'End-of-Call' check could not show open serviceable events**

1. **Problem Description:** Routine to list serviceable events encountered a Java null pointer exception
  2. **Potential Impact of Problem:** none
  3. **Problem Severity:** Service
  4. **Pervasive Problem:** No
- ID#: 321619

#### **HMC hang caused by network adapter error**

1. **Problem Description:** USB-Ethernet adapter errors on some T540 HMCs. The errors are related to the specific USB port that is being used. Fix allows connecting the adapter to a different USB port.
  2. **Potential Impact of Problem:** none
  3. **Problem Severity:** Service
  4. **Pervasive Problem:** Yes
- ID#: 323303

#### **Easy Tier missing statistics**

1. **Problem Description:** Easy Tier Application volume statistics do not show detailed workload statistics
  2. **Potential Impact of Problem:** none
  3. **Problem Severity:** Service
  4. **Pervasive Problem:** No
- ID#: 323642

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### **Resource object mismatch between Ranks and Segment Pools**

1. **Problem Description:** Rank and Segment Pool objects may not show accurate counts in DSCLI.
  2. **Potential Impact of Problem:** none
  3. **Problem Severity:** Service
  4. **Pervasive Problem:** No
- ID#: 323761

### **ESSNI does not use alternate path**

1. **Problem Description:** When one HMC has communication problems with the LPARs, ESSNI commands are not being retried on the alternate HMC.
  2. **Potential Impact of Problem:** none
  3. **Problem Severity:** Service
  4. **Pervasive Problem:** No
- ID#: 324209

### **HPFE error counts combine stats from both VRAs**

1. **Problem Description:** The thresholding of Gen-1 High Performance Flash Enclosure error counters does not show separate counts for each V-RAID adapter.
  2. **Potential Impact of Problem:** none
  3. **Problem Severity:** Service
  4. **Pervasive Problem:** No
- ID#: 324828

### **Improve missing drive isolation**

1. **Problem Description:** When healthcheck finds multiple "not installed" drives in an enclosure, problem isolation may not call the correct FRU replacement order.
  2. **Potential Impact of Problem:** none
  3. **Problem Severity:** Service
  4. **Pervasive Problem:** No
- ID#: 324996

### **Multiple drives rejected in an enclosure during power cycle**

1. **Problem Description:** Drive notification of power off was incorrectly treated as an error.
  2. **Potential Impact of Problem:** Extended service action
  3. **Problem Severity:** Service
  4. **Pervasive Problem:** No
- ID#: 325229

### **HMC WUI shows incorrect battery end-of-life value**

1. **Problem Description:** HMC WUI is referencing a deprecated field in the Resource Manager object
  2. **Potential Impact of Problem:** none
  3. **Problem Severity:** Service
  4. **Pervasive Problem:** No
- ID#: 325689

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### **HMC not responding if one internal network interface is down**

1. **Problem Description:** DSCLI and CSM commands are not processed on the remaining internal network path.
  2. **Potential Impact of Problem:** none
  3. **Problem Severity:** Service
  4. **Pervasive Problem:** No
- ID#: 325728

### **Hung Device Adapter health check process**

1. **Problem Description:** DA health check process was hung, which then prevented subsequent health checks to run.
  2. **Potential Impact of Problem:** none
  3. **Problem Severity:** Service
  4. **Pervasive Problem:** No
- ID#: 326097

### **DDM firmware update did not update resource objects**

1. **Problem Description:** After DDM firmware update, the resource objects for Flash Cards still reflected the older firmware level
  2. **Potential Impact of Problem:** none
  3. **Problem Severity:** Service
  4. **Pervasive Problem:** No
- ID#: 326100

### **Repaired HPFE SES error reported again after CDA**

1. **Problem Description:** LPAR SES log directories were not sync'd to the new CDA preload image.
  2. **Potential Impact of Problem:** none
  3. **Problem Severity:** Service
  4. **Pervasive Problem:** No
- ID#: 326441

### **Restore ICSs and CS Pokes after LPAR hard drive rebuild**

1. **Problem Description:** Add necessary directories to HDR backup restore list.
  2. **Potential Impact of Problem:** none
  3. **Problem Severity:** Service
  4. **Pervasive Problem:** No
- ID#: 326561

### **HMC hang during boot, when querying LPAR resources**

1. **Problem Description:** During boot, HMC may hang at 'Initialization in Progress' phase because of a resource manager communication problem.
  2. **Potential Impact of Problem:** Unable to use HMC(s).
  3. **Problem Severity:** Service
  4. **Pervasive Problem:** No
- ID#: 327217

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### **Dual HMC hang when both HMCs are rebooted at the same time**

1. **Problem Description:** During HMC initialization, both HMCs were attempting to update Storage Facility resource objects at the same time.
2. **Potential Impact of Problem:** Unable to use HMCs
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 327264

### **HMC very slow after HPFE rank removal**

1. **Problem Description:** During rank removal, a Flash Card failed format, which did not allow the removal to complete. This in turn caused a resource manager hang condition.
2. **Potential Impact of Problem:** Unable to use HMC
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 327626

### **Deferred 'state 10' DDM display**

1. **Problem Description:** DSCLI 'lsddm' command response was changed to show 'state 10' DDMs as 'Unconfigured', rather than 'Failed - Deferred Service'. Fix restores the prior behavior for Clients with Deferred DDM Disablement RPQ.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 327961, 327977

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

### **RSC auto-reconnect after HMC reboot**

1. **Problem Description:** After rebooting HMC, Remote Support Console will auto-reconnect to an existing session.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No

ID#: 325601

### **Change notification time for HMC network surveillance errors**

1. **Problem Description:** Enables function in WUI to change the current 8 hour notification time to a shorter value
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No

ID#: 326007



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### **Add support for remote HMC base code upgrade**

- 1. Problem Description:** Implements support for remote execution of HMC reload and upgrade data save/restore.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Improvement
- 4. Pervasive Problem:** No

ID#: 328619

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