

IBM System Storage - DS8870 Disk Storage

Microcode Bundle 87.21.48.0 Release Note Information v1

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Release Date: December 24, 2014

VRMF Level Data Results:

VRMF level From:	87.21.39.0
VRMF Level To:	87.21.48.0
Report for:	All DS8870

Code Bundle Contents

This table includes code component reference information.

DS8870 Code Bundle Level	SEA or LMC Version:	DS CLI Client	Easy Tier Client	STAT Tool	Heat Map Transfer Utility	Storage Manager
87.21.48.0	7.7.21.94	7.7.21.94	7.7.21.94	7.7.21.94	7.7.21.94	5.7.21.1050

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

At a glance:

- Global Copy Collision enhancement enabled by default
- RAID10 rebuild duration reduction
- Apache Tomcat, AppScan, and other security fixes
- Battery end of life bug calculation - DC UPS FW 03-47
- Easy Tier data collection improvement
- Reduce Secure Data Overwrite pre-check duration

This new microcode release only supports the DS8870.

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.

HIPER - Killstrip error logs are not processed by DA

1. **Problem Description:** Killstrip processing is delayed until the host executes a read to that location.
 2. **Potential Impact of Problem:** loss of data
 3. **Problem Severity:** HIPER
 4. **Pervasive Problem:** Yes
- ID#: 299666

Inconsistencies on PPRC 'A' copy

1. **Problem Description:** When PPRC primary volume is cascaded, an indicator is lost that the volume is a primary. This allows flashcopy establish, without ensuring the flashcopy is being mirrored.
 2. **Potential Impact of Problem:** Corrupted primary copy
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
- ID#: 300273

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

PCIe last path recovery enhancement

1. **Problem Description:** During error recovery for a PCIe error to a host bay, access can be lost if we have latent PCIe errors on the alternate host bay. This change implements additional recovery strategies when a secondary error occurs on the last path.
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
- ID#: 298574

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

Excessive Easy Tier swap plan generation time

1. **Problem Description:** Multiple time-outs and MLEs caused by Easy Tier taking too long to generate swap plans, and missing heartbeats.
 2. **Potential Impact of Problem:** degraded performance
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** Yes
- ID#: 298152

IWNR2704E on Global Mirror session pause

1. **Problem Description:** When > 1 control paths are owned by the Master Alternate Controller (MAC), code does not properly iterate through all the external subordinates owned by the MAC.
 2. **Potential Impact of Problem:** Global Mirror pause failure
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
- ID#: 299406

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Service: A recoverable error, Service improvements.

PCR 7575 - DSGUI AppScan errors/security vulnerabilities

- 1. Problem Description:** Corrects multiple vulnerabilities
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID#: 294209

STAT workload skew report incorrect

- 1. Problem Description:** We have two problems here:
 - a) Extents are not sorted by bandwidth when generating the heat files;
 - b) When generating the CSV files, code uses the extents sorted by the total I/O, instead of heat I/O;These two problems cause an incorrect skew curve for bandwidth based on the CSV files
- 2. Potential Impact of Problem:** Incorrect workload reporting
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID#: 298335

False loss-of-access indication on single LPAR

- 1. Problem Description:** LPAR in service mode with a failed Device Adapter indicates a loss of access to data. Operational LPAR was not impacted.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID#: 298487

0x5171 MLE

- 1. Problem Description:** Track that was destaged is partially restaged from NVS. Subsequent re-access of track without full restage caused a Microcode Logic Error
- 2. Potential Impact of Problem:** Warmstart
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID#: 298533

HMC Healthcheck failed at: verifyHMCFileSystemSize

- 1. Problem Description:** Accumulation of monitor files from processes that have exited.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID#: 299747

0x0103 MLE

- 1. Problem Description:** CS tries to map an invalid segment because it's accessing a sidefile entry before the entry is complete. This causes a Microcode Logic Error.
- 2. Potential Impact of Problem:** Warmstart
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID#: 299907

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Code update suspended

1. **Problem Description:** During p7 firmware update SRC B1818A10 is logged, causing CDA to suspend
 2. **Potential Impact of Problem:** Extended service action
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
- ID#: 299924

0x05E0 MLE

1. **Problem Description:** Global Mirror collision and Global Copy collision on the same track triggers a Microcode Logic Error if the volume is removed from the session while Global Copy transfer is still pending.
 2. **Potential Impact of Problem:** Warmstart
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
- ID#: 300069

Excessive MRPD data transmit time

1. **Problem Description:** Collection of data for logicalVolume and logicalSubsystem caused MRPD dataset to become very large.
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
- ID#: 300113

Assist OnSite (AOS) disabled after HMC update

1. **Problem Description:** Default setting after reinstalling AOS filesets is to disable AOS.
 2. **Potential Impact of Problem:** Must re-enable AOS after update
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** Yes
- ID#: 300834

FlashCopy Manager script failure

1. **Problem Description:** Failure was caused by malformed UnitSerial field in inquiry page C2h
 2. **Potential Impact of Problem:** Scripting fails
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
- ID#: 301289

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Improvements: Improvement for better usability

Remove Apache Struts v1 from GUI

1. **Problem Description:** On April 30, 2014, a critical Apache Struts vulnerability was published at <http://web.nvd.nist.gov/view/vuln/detail?vulnId=CVE-2014-0114>, with a score high enough to require a fix as soon as possible. It is noted that Apache Struts 1.x is now EOL and cannot be simply replaced with a newer version without significant code rework.

It has been decided to simply eliminate all GUI usage of Apache Struts, and use new Java servlets instead.

2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No

ID#: 296806

Easy Tier data collection improvements

1. **Problem Description:** Add sub-tasks to the Easy Tier data collection by area task, and reduce the size of individual sub-packages
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No

ID#: 297112

Easy Tier data collection improvements

1. **Problem Description:** Provide additional functions to collect Easy Tier logs and Easy Tier traces by date
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No

ID#: 299028

Allow secondary HMC to report powerfail/firehose dump

1. **Problem Description:** If power is lost to the base rack, the integrated HMC is unable to report the event. If a secondary HMC exists, this improvement will allow it to report the event.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No

ID#: 299134

WebSM/AOS callhome change

1. **Problem Description:** Update callhome records with AOS information
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No

ID#: 300132

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Enable Global Copy Collision sidefile by default

- 1. Problem Description:** Changes the default setting to enabled.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Improvement
- 4. Pervasive Problem:** No

ID#: 301005

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