

IBM System Storage - DS8870 Disk Storage

Microcode Bundle 87.41.31.0 Release Note Information v1

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Release Date: August 18, 2015

VRMF Level Data Results:

VRMF level From:	87.41.17.0
VRMF Level To:	87.41.31.0
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
87.41.31.0	7.7.41.103	7.7.41.103	7.7.41.103	7.7.41.103	7.7.41.103	5.7.41.1028

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

At a glance:

- Allow Multi-target PPRC for migration from previous DS8K models
- VMWare® VAAI 'Zero Bytes Write Same' support enabled by default
- Optional proactive Customer notification for 'slow disk' errors
- SSLv3 'Poodle' fix enhancement
- Bug fixes

This 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.

Error in GM collision handling

1. **Problem Description:** A microcode logic error handling a GM collision may result in 0x7618 MLE, or incomplete data sent to secondary, depending on timing.
 2. **Potential Impact of Problem:** Warmstart, or corrupted consistency group
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
- ID#: 303510

Provide new warning when replacing DDMs in an offline array

1. **Problem Description:** SSR may replace a DDM that is needed to recover an offline array.
 2. **Potential Impact of Problem:** Extended loss of access, or loss of data
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
- ID#: 305037

Enable PCIe ECRC checking for High Performance Flash

1. **Problem Description:** End-to-end PCIe ECRC checking was disabled.
 2. **Potential Impact of Problem:** loss of data
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
- ID#: 309255

Failing DDM was not rejected

1. **Problem Description:** Failed DDM is not rejected when Device Adapter is in takeover state.
 2. **Potential Impact of Problem:** loss of data
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
- ID#: 309406

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

HIPER I/O timeout during failed DDM deconfigure

1. **Problem Description:** Operation in process hangs because the DDM is unresponsive, thus preventing quiesce of the DDM.
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** HIPER
 4. **Pervasive Problem:** Yes
- ID#: 298041

HIPER Loop errors caused multiple DDM rejections

1. **Problem Description:** Degraded loop led to array members being marked 'Security Degraded', which then caused them to be rejected from the array.
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** HIPER
 4. **Pervasive Problem:** Yes
- ID#: 303528

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MLE during dynamic HCD changes

1. **Problem Description:** A microcode error may allow processing of zHPF I/O without first obtaining an SMP lock.
 2. **Potential Impact of Problem:** Repeated warmstarts
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
- ID#: 304265

Persistent false HPFE error indication

1. **Problem Description:** High Performance Flash Enclosure surfaced a false error, that could not be cleared.
 2. **Potential Impact of Problem:** Disruptive repair
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
- ID#: 304850

CRC errors cause fenced VRA pair

1. **Problem Description:** V-RAID adapter pair was fenced after multiple unit checks caused by bad CRC from one of the RAID managers
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
- ID#: 305143

Prevent multi-target PPRC if partner does not have support

1. **Problem Description:** System with MTPPRC was able to establish multi-target relationship with secondary that did not have MTPPRC support.
 2. **Potential Impact of Problem:** Dual reboot
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
- ID#: 305631

Remote FlashCopy failure

1. **Problem Description:** During CDA, existing PreserveMirror FlashCopy relationships failed with msg ADR935W. Problem affects incremental PMFLC relationships, when updating to r7.4 levels, from a pre-7.4 level.
 2. **Potential Impact of Problem:** Flashcopy failure
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
- ID#: 307524

Cache segment depletion in systems with 16GB system memory

1. **Problem Description:** Too many tracks are being kept on CPU queues, in proportion to the available cache.
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
- ID#: 308476

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

Host Adapter Virtual Command Ring too small

1. **Problem Description:** Running large read I/O chains, the channel detects missing IUs from the control unit via IUCount mismatches. The CU is not sending all the IUs it says it is, because the VCR (virtual command ring) has become full.
 2. **Potential Impact of Problem:** IFCCs
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
- ID#: 295152

CS Task Timeout caused GM Suspend

1. **Problem Description:** A microcode logic error caused a deadlock condition between cache and copy services functions.
 2. **Potential Impact of Problem:** Global Mirror Suspend
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
- ID#: 303225

Enable VAAI write same support by default

1. **Problem Description:** VMWare VAAI write same support was disabled by default, until the fix for a MT-PPRC issue could be fully tested.
 2. **Potential Impact of Problem:** degraded performance
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
- ID#: 306683

Service: A recoverable error, Service improvements.

0x05E0 MLE during SF IML

1. **Problem Description:** A microcode logic error during Storage Facility IML caused the SF to DSI and perform another dual IML. The exposure only exists during full SF IML.
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
- ID#: 302748

DS Storage Manager GUI hangs

1. **Problem Description:** The GUI server hit an Out-of-Memory Java error
 2. **Potential Impact of Problem:** Unresponsive GUI
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
- ID#: 304096

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Lost volume group definitions

1. **Problem Description:** When modifying host port definitions for new GUI, if the volume group(s) for the port is the same as another existing volume group, one of the groups may be deleted.
 2. **Potential Impact of Problem:** Volume group may need to be recreated
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
- ID#: 305173

Option to disable 240-byte performance data

1. **Problem Description:** Code levels that supply 240-byte performance data to zOS are problematic for Customers that are running versions of zOS older than 1.12, or z/VM without VM65248. This fix provides the option to revert to the older 192-byte device performance stats.
 2. **Potential Impact of Problem:** Abends
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
- ID#: 305219

Unable to run commands to VRAID adapter when in service mode

1. **Problem Description:** Could not run low-level VRAID commands
 2. **Potential Impact of Problem:** Extended maintenance window
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
- ID#: 305254

Missing heartbeat callhome

1. **Problem Description:** After spring Daylight Saving Time change, heartbeat fails to collect data until HMC is returned to standard time.
 2. **Potential Impact of Problem:** Missing heartbeats
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** Yes
- ID#: 305698

Enhanced VRAID soft error isolation

1. **Problem Description:** Soft error analysis does not always correctly identify the failing component
 2. **Potential Impact of Problem:** Multiple repair actions
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
- ID#: 305894

0x05E MLE during CDA

1. **Problem Description:** During CDA failover to update the second LPAR, the Device Adapter failover code improperly handled the format of the message from the down-level LPAR, causing a Microcode Logic Error.
 2. **Potential Impact of Problem:** Warmstart caused CDA to suspend
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
- ID#: 306939

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DDM replacement failure

1. **Problem Description:** Map 4970 enhancement for SRC BE340027 where DDM is bypassed by FCIC firmware.
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
- ID#: 307067

Improvements: Improvement for better usability

Optional proactive 'Slow Disk' notification

1. **Problem Description:** Creates SRC BE346018 for Customer notification of DDMs that are posting 'slow disk' messages. Notification is enabled by control switch. HMC will not call home for this message.
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Improvement
 4. **Pervasive Problem:** No
- ID#: 304271

PCR 7703: Allow MT-PPRC for Migration from Previous DS8K Models

1. **Problem Description:** New Function
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Improvement
 4. **Pervasive Problem:** No
- ID#: 304602

SSLv3 'Poodle' fix enhancement

1. **Problem Description:** Current implementation leaves Customers with problems accessing systems that do not yet have the 'Poodle' fix.
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Improvement
 4. **Pervasive Problem:** No
- ID#: 305745

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