IBM System Storage - DS8870 Disk Storage
Microcode Bundle 87.51.23.0 Release Note Information v1

Release Date: October 30, 2015

VRMF Level Data Results:

VRMF level From:	87.50.14.0
VRMF Level To:	87.51.23.0
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
87.51.23.0	7.7.51.66	7.7.51.66	7.7.51.66	7.7.51.66	7.7.51.66	5.7.51.1026

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

At a glance:

• Bug fixes

This is a 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

Acute: An irrecoverable error with potential loss of data.

None.

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

HIPER Host adapter 0x4B0E MLE
1. **Problem Description:** zHPF workload was transferring a long chain of small records. The DS8K split the transfer into two DMAs, exposing a problem with the calculation for notAlignedBytes.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes
ID#: 308467

DC-UPS internal fence incorrectly cleared
1. **Problem Description:** During DC-UPS repair, all partner power cables were not verified before clearing DC-UPS internal fence.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
ID#: 309660

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

Cross-cluster DMA failure during cluster resume
1. **Problem Description:** When a failover is caused by a PCIe fabric error, the I/O bay is recovered during the failover but the cross-cluster DMA engine is not properly cleaned up. This causes a failure when we attempt to use the bay during resume to dual cluster.
2. **Potential Impact of Problem:** Extended service action
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
ID#: 284229

Improve Easy Tier random vs sequential calculations
1. **Problem Description:** Easy Tier may promote hot extents based on total IOPS, that may not be the best candidates for SSD or flash.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
ID#: 304652

'Refresh Cache' message in DS GUI
1. **Problem Description:** After logging into DS GUI on systems with a large number of volumes, a GUI cache refresh process may run for an extended period, preventing use of the DS GUI until the refresh finishes.
2. **Potential Impact of Problem:** Unable to manage the storage
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
ID#: 305188

HA port offline, logs false SRC=BE9C7890
1. **Problem Description:** Host Adapter port online process may take longer than the time allotted.
2. **Potential Impact of Problem:** loss of pathnone
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
ID#: 309118

0x27CA MLE
1. **Problem Description:** Metadata mismatch on track 0 causes warmstart. Behavior will change to do On Demand Dump instead.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
ID#: 309992

Long Flash Copy increment-last times with Preserve Mirror
1. **Problem Description:** Establish command is waiting for the change recording bitmap merge to complete. The delay is proportional to volume size.
2. **Potential Impact of Problem:** Delayed FLC establish
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
ID#: 310373

Service: A recoverable error, Service improvements.

CDA suspends with SRC=BEB10020
1. **Problem Description:** During service processor firmware update, HMC logs a loss of communication with the service processor, as expected. This error should be suppressed during CDA.
2. **Potential Impact of Problem:** Extended service window
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID#: 307871

Write same with unmap timeout when formatting LUNs
1. **Problem Description:** Linux LVM track format does not align with the DS8000 extent boundaries. This caused DS8K to write zeroes, rather than discard the extents.
2. **Potential Impact of Problem:** LVM format timeouts
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID#: 307949

Msg CMUA00024E running STAT tool

1. **Problem Description:** r7.4 STAT tool fails, because it is unable to parse an r7.3 heat map. User will be directed to run the compatible STAT tool version.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 308032

Flash card install certify failed with no serviceable event

1. **Problem Description:** Flash card failed in a way that caused the certify process to abort for the failing card, without creating a serviceable event.
2. **Potential Impact of Problem:** Could prevent rank creation
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 308169

Improve isolation for SRC=BE34029C

1. **Problem Description:** Typically this is a recoverable firmware error, but the current analysis routines call for parts replacement on the first error.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes

ID#: 308354

DSCLI 'showextpool' takes a long time to complete

1. **Problem Description:** sizeOfRepository parameter was not properly defined in r7.4 and r7.5 versions of DSCLI.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 308918

DSGUI posts error message when extent pool is full

1. **Problem Description:** If extent pool is intentionally full, this should not be reported as an error.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 309364

0x2694 MLE during IML back

1. **Problem Description:** During IML back, with cross-cluster flash copy relations, cross-cluster query triggered a microcode logic error, and cluster failed to resume.
2. **Potential Impact of Problem:** Extended service action
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 309386

Network check failure caused CDA suspend

1. **Problem Description:** During CDA, an error on one network caused CDA to suspend, without trying to use the alternate network connection.
2. **Potential Impact of Problem:** Extended service action
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 309525

Storage enclosure firmware update suspend
1. **Problem Description:** Expected sympathetic errors were not suppressed.
2. **Potential Impact of Problem:** Extended service action
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID#: 309842

CMUN04003E ESS_QUERY_UNSUCCESSFUL_EXCEPTION
1. **Problem Description:** A memory leak in Storage Agent resource manager will eventually cause query tasks to fail.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID#: 311011

Cannot connect to HMC via AOS
1. **Problem Description:** After HMC install or rebuild, AOS is set to disabled because of a configuration file problem.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID#: 309365

Improvements: Improvement for better usability

None.

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