IBM System Storage - DS8880 Disk Storage
Microcode Bundle 88.22.33.0 Release Note Information v1.2

Release Date: March 22, 2017

VRMF Level Data Results:

VRMF level From:	88.20.112.0
VRMF Level To:	88.22.33.0
Report for:	All DS8880

Code Bundle Contents

DS8880 Code Bundle Level	SEA or LMC Version:	DSCLI Client	STAT Tool	Heat Map Transfer Utility	Storage Manager	Copy Services Manager
88.22.33.0	7.8.22.85	7.8.22.85	7.8.22.85	7.8.22.85	5.8.22.1034	6.1.4

Overview of new features and functions supported by this release

At a glance:

- High Performance Flash Enclosure Gen2 MES support
- Bug fixes

This new microcode release supports DS8880 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:

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.

XRC data miscompare
1. **Problem Description:** A channel error occurred while processing a bitmap toggle command. The command was redriven, resetting bitmap values that should not have been reset.
2. **Potential Impact of Problem:** loss of data on XRC secondary
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
ID#: 324307

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

Copy Services TCB manager detected a deadlock
1. **Problem Description:** Deadlock caused Cluster reboot. Subsequent deadlock could then cause the partner Cluster to reboot.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
ID#: 319838

Multiple DDMs rejected during loop recovery
1. **Problem Description:** Device Adapter loop instability can cause failures reading drive capacity information
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
ID#: 322533

Possible loss of access when zHPF data transfer is > 16MB
1. **Problem Description:** zHPF Write with data transfer > 16MB and incorrect buffer size causes channel timeout. The operation is aborted. Channel retries the same operation and repeatedly aborts again.
   Fix will return control unit error status to break the loop.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
ID#: 322593

HIPER Small-Extent volume missing extents
1. **Problem Description:** http://www.ibm.com/support/docview.wss?uid=ssg1S1010480
5. **Potential Impact of Problem:** Warmstarts, loss of access
6. **Problem Severity:** HIPER
7. **Pervasive Problem:** Yes
ID#: 324390

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

0x1A3E MLE while creating volumes
1. **Problem Description:** When creating large numbers of over-provisioned Extent Space Efficient volumes, Device Adapters can run out of Virtual Storage Table space. Action should fail during pre-check, and issue the appropriate message.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
ID#: 321159

DDM media errors caused performance impact
1. **Problem Description:** Fix lowers correctable media error thresholds
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
ID#: 321413

Unassigned processors after CDA
1. **Problem Description:** After processor and memory upgrade, one HMC may still contain the old LPAR profiles. If the HMC with the old profile is then used to perform a p8 firmware update, the LPARs are resumed using the previous processor configuration.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
ID#: 322845

0x1159 MLE, data pinned in cache
1. **Problem Description:** Read command was modified to become a write command, but DA did not allocate an extent to destage the write data.
2. **Potential Impact of Problem:** Warmstart, pinned write data.
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
ID#: 324675

Performance degraded on workloads dependent on hw reserves
2. **Problem Description:** Hardware device reserve processing may delay allowing a disconnected device to reconnect
3. **Potential Impact of Problem:** degraded performance
4. **Problem Severity:** Moderate
5. **Pervasive Problem:** No
ID#: 324961

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Service: A recoverable error, Service improvements.

HMC sl0 interface address conflict
1. **Problem Description:** sl0 (IP over modem) virtual interface is configured with 10.253.0.1 on HMC1 and 10.10.2.1 on HMC2. Fix is to disable sl0.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID#: 322321

Secure Data Overwrite false pre-check failure
1. **Problem Description:** Drives were in a good state for SDO, but failed pre-check because a service state flag was not reset.
2. **Potential Impact of Problem:** Extended SDO duration
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID#: 322705

False V-RAID adapter fan errors
1. **Problem Description:** Increase error thresholds to reduce serviceable events for false fan errors.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes
ID#: 323259

PE Package offload via DSCLI returns false error
1. **Problem Description:** PE package offload can return a false failure if HMC has FTP offload enabled.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID#: 322306

Flash Card replacement failure isolation
1. **Problem Description:** Perform enclosure statesave when Flash Card replacement fails because of a missing path.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID#: 323474

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EasyTier support for 1.6 TB and 3.2 TB Flash Cards
1. **Problem Description:** Add performance data to EasyTier config file
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID#: 323491

Unable to group host ports in previous DS GUI
1. **Problem Description:** DSCLI mkhost function creates every connection with host port group 0
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID#: 323595

DSCLI lshostconnect shows WWPN as the hostname
1. **Problem Description:** DSCLI mkhost command names host connections using the WWPN instead of using a variation of the hostname
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID#: 323596

Incorrect translation in DS GUI
1. **Problem Description:** DS GUI incorrectly translates "KIOPS" for French language implementations.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID#: 323848

Change Assist OnSite Access Control List group
1. **Problem Description:** Change to allow only the single AOS ACL group IBM/BLUE/GTS/EMEA/STORAGE/DS8000 for EMEA systems.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID#: 324050

SRC=BE14EAF1 does not auto-close
1. **Problem Description:** HMC Key Manager communication errors should auto-close when communication is restored.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID#: 324091

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DS GUI refresh object cache in the background
1. **Problem Description:** DS GUI waits to build it's object cache until the user visits a page that uses the objects
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID#: 324119

Apple MacOS host type missing in DS GUI
1. **Problem Description:** Change DS GUI to match the host types supported by DSCLI
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID#: 324191

HPFE install fails if enclosure is fully populated
1. **Problem Description:** If a Gen1 High Performance Flash Enclosure contains all 30 Flash Cards, a microcode logic error fails to assign all of the Flash Cards to an array site during enclosure install.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID#: 324201

DS GUI shows incorrect Flash Card firmware level
1. **Problem Description:** After Flash Card upgrade, the firmware level of the new Flash Cards was not correctly shown by DS GUI
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID#: 324275

Remove whitespace from challenge key
1. **Problem Description:** New remote support challenge key contains whitespace that can cause problems with copy/paste of the challenge code.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID#: 324839

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Improvements: Improvements for better usability

Collect PE package from both HMCs
1. **Problem Description:** In dual-HMC systems, PE package collection on one HMC will automatically collect data from both HMCs
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
ID#: 319477

Update AOS to latest 4.0.1
1. **Problem Description:** Assist OnSite maintenance release
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
ID#: 320543

HPFE Gen2 MES support
1. **Problem Description:** Adds service WUI support for High Performance Flash Enclosure Gen2 upgrade
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
ID#: 322813

Improve VRAID path error analysis
1. **Problem Description:** Provide additional soft device bus error data
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
ID#: 323584

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