

IBM System Storage - DS8880 Disk Storage

Microcode Bundle 88.50.176.0 Release Note Information

Release Date: September 7, 2018

VRMF Level Data Results:

VRMF level From:	New version - no previous releases
VRMF Level To:	88.50.176.0
Report for:	All DS8880

Code Bundle Contents

DS8880 Code Bundle Level	SEA or LMC Version:	DSCLI Client	Heat Map Transfer Utility	Storage Manager	Copy Services Manager
88.50.176.0	7.8.50.482	7.8.50.482	7.8.50.482	5.8.50.1222	6.2.2.1

Overview of new features and functions supported by this release

At a glance:

- DS8882F 16U rack-mounted Model 983
- Thin provisioning enhancements
- Safeguarded Copy for logical protection
- Data encryption support for transparent cloud tiering
- Transparent cloud tiering support for Global Mirror and Metro Global Mirror
- Remote Code Load default for all DS8880/DS8880F models after Dec 31, 2018

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.

SRC=BE504940 on Flash Copy target volume

- 1. Problem Description:** While performing Copy Source to Target operation, a microcode error during host bay PCIe fabric recovery, resulted in a cache medium error.
 - 2. Potential Impact of Problem:** loss of data
 - 3. Problem Severity:** High Impact
 - 4. Pervasive Problem:** No
- ID# 333246

Registered State Change Notification with incorrect Device ID

- 1. Problem Description:** During LSS creation or deletion, host adapter may send RSCN prematurely, before the Device ID has been correctly set.
 - 2. Potential Impact of Problem:** loss of access
 - 3. Problem Severity:** High Impact
 - 4. Pervasive Problem:** No
- ID# 335015

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

0x166A MLE during DDM firmware update

- 1. Problem Description:** DDM firmware update uses fixed wait time between each DDM update. Fix will also consider NVS utilization before starting update on the next DDM.
 - 2. Potential Impact of Problem:** loss of access
 - 3. Problem Severity:** High Impact
 - 4. Pervasive Problem:** No
- ID# 319076

HIPER Dual disk enclosure controller failure

- 1. Problem Description:** A disk enclosure controller failed, and the surviving partner controller was unable to complete enclosure recovery actions.
 - 2. Potential Impact of Problem:** loss of access
 - 3. Problem Severity:** HIPER
 - 4. Pervasive Problem:** Yes
- ID# 332765

Repeated 0x161B MLE

- 1. Problem Description:** Device Adapter code could not find the location of a track to be destaged by cache. This led to multiple microcode logic errors, and warmstarts. Fix will call a single-shot On Demand Data dump instead.
 - 2. Potential Impact of Problem:** Repeated warmstarts, loss of access
 - 3. Problem Severity:** High Impact
 - 4. Pervasive Problem:** No
- ID# 329524

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Device Adapter repair may remove last path to data

1. **Problem Description:** An exposure exists when running in single-cluster mode, where a repair may be allowed when it would remove the last path to data.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID# 333385

Operational cluster reboot while resuming offline cluster

1. **Problem Description:** While resuming an offline cluster, a latent PCIe error may cause a failure in the operational cluster
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID# 333402

HIPER zHyperLink PCIe errors during CDA

1. **Problem Description:** Systems that contain the updated host bay hardware that supports zHyperLink may experience PCIe errors during code upgrades, even if zHyperLink feature is not installed. Access loss may occur if multiple host bays encounter this failure
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes

ID# 333448

Repeated 0x1B68 MLE

1. **Problem Description:** During warmstart processing, cross-cluster messaging failed because of a microcode logic error.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID# 333523

LPAR crashdump

1. **Problem Description:** An LPAR crashdump exposure exists in DS8880 systems using 10 Gb Transparent Cloud Tiering network adapters, and zHyperLink feature
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID# 333771

HIPER Host Adapter LRC errors

1. **Problem Description:** Open Systems volumes having more than 15 initiators that set persistent reserve may encounter a pointer exception that results in HA LRC errors, and repeated warmstarts.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes

ID# 333868

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Start Pending, devices boxed during PPRC suspend

1. **Problem Description:** While attempting to recover a Global Mirror session that was in prepared/severe state, the suspend process was allowed an excessively long timeout value.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID# 333890

HPFE array pause during rebuild

1. **Problem Description:** An exposure was identified that can result in a pause in array activity for up to 40 seconds.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID# 334999

Incorrect reporting of bad data block

1. **Problem Description:** Sense data sent to IBM i host incorrectly identified the first block in the track as failed, rather than the actual failing block.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID# 335122

HIPER HPFE dual expander hang

1. **Problem Description:** During error recovery, i2c bus errors were not handled properly by VRA firmware
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes

ID# 335285

HIPER Host Adapter 0xB40B MLE with IBM i host connections

1. **Problem Description:** A check condition while processing IBM i linked commands can trigger a Microcode Logic Error. This pattern may then repeat on multiple host adapters, leading to temporary loss of access.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes

ID# 335351

0x10F7 MLE

1. **Problem Description:** Improper handling of multiple stage errors in a single adapter command caused microcode logic errors.
2. **Potential Impact of Problem:** Repeated warmstarts, loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID# 335466

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HIPER KCQ=52400 on IBM i systems running Geographic Mirroring

1. **Problem Description:** IBM i hosts above 7.2 TR7 or 7.3 TR3 are exposed to a loss of access when processing skip read/write commands in a Geographic Mirroring environment.
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** HIPER
 4. **Pervasive Problem:** No
- ID# 335899

Repeating 0x264A MLE during failover

1. **Problem Description:** After a data loss event, a Microcode Logic Error can cause repeated warmstarts during failover.
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
- ID# 335935

Repeated 0x7F31 MLEs

1. **Problem Description:** When creating a forward cascading FlashCopy relationship, system encountered repeated MLEs accessing some tracks in the B copy until the B -> C copy was complete
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
- ID# 336893

Permanent I/O errors after Hyperswap

1. **Problem Description:** z/OS Metro/Global Mirror-Incremental Resync establish commands were issued to secondary devices in a suspended Global Mirror session. The commands were allowed to process because of incorrect status in a control block.
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
- ID# 337250

Incorrect response to Global Data state

1. **Problem Description:** If all the global data ranks are in a critical state, because RAID-6 is down two drives, access may be lost to all volumes.
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
- ID# 337352

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

0x05E0 MLE

- 1. Problem Description:** Locking exception while a PAV alias device is trying to query whether the base device has a reserve.
 - 2. Potential Impact of Problem:** Warmstart
 - 3. Problem Severity:** Moderate
 - 4. Pervasive Problem:** Yes
- ID# 331106

Performance degradation when one MTMM leg is suspended

- 1. Problem Description:** In Multi-Target Metro Mirror configuration, using zHyperWrite, when one of the target relationships is suspended, the MTMM primary shows some increase in disconnect times.
 - 2. Potential Impact of Problem:** degraded performance
 - 3. Problem Severity:** Moderate
 - 4. Pervasive Problem:** No
- ID# 332739

0xB11D MLE during Host Adapter fastload

- 1. Problem Description:** PPRC link error recovery during Lights-On HA FastLoad exposed a microcode logic error in the path redrive function
 - 2. Potential Impact of Problem:** Warmstart
 - 3. Problem Severity:** Moderate
 - 4. Pervasive Problem:** No
- ID# 333183

0x625 MLE

- 1. Problem Description:** When modifying a volume group, a Task Control Block type change was processed twice.
 - 2. Potential Impact of Problem:** Warmstart
 - 3. Problem Severity:** Moderate
 - 4. Pervasive Problem:** Yes
- ID# 333704

Global Copy caused performance impact

- 1. Problem Description:** Global Copy workload may affect Metro Mirror performance when bandwidth is constrained between primary and secondary systems.
 - 2. Potential Impact of Problem:** degraded performance
 - 3. Problem Severity:** Moderate
 - 4. Pervasive Problem:** No
- ID# 334084

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0x2562 MLE / 0x11B6 MLE

- 1. Problem Description:** Inconsistent Device Adapter task pointers resulted in multiple Microcode Logic Errors.
 - 2. Potential Impact of Problem:** Warmstarts
 - 3. Problem Severity:** Moderate
 - 4. Pervasive Problem:** No
- ID# 334675

0x513D MLE

- 1. Problem Description:** Fixed Block component received an unexpected return code from Cache component
 - 2. Potential Impact of Problem:** Warmstart
 - 3. Problem Severity:** Moderate
 - 4. Pervasive Problem:** No
- ID# 334722

FICON channel errors after swap to new CPU

- 1. Problem Description:** When the original CPU was shutdown, the Host Adapter port did not clear flags that indicate features supported by the CPU, causing a mismatch when the new CPU was brought up.
 - 2. Potential Impact of Problem:** Channel detected errors
 - 3. Problem Severity:** Moderate
 - 4. Pervasive Problem:** No
- ID# 335051

SRC=BE172000 LPAR crash dump

- 1. Problem Description:** A read thread was waiting on a lock being freed by a write thread, but was unable to access the CPU because of a microcode logic error. This caused LPAR failover and reboot.
 - 2. Potential Impact of Problem:** degraded performance
 - 3. Problem Severity:** Moderate
 - 4. Pervasive Problem:** No
- ID# 335067

0x552C MLE

- 1. Problem Description:** A timing condition was exposed when an abort request occurred at the same time as a datamover allocation request
 - 2. Potential Impact of Problem:** Warmstart
 - 3. Problem Severity:** Moderate
 - 4. Pervasive Problem:** Yes
- ID# 335151

0x430A Host Adapter MLE

- 1. Problem Description:** Host adapter read track request returned an incorrect record.
 - 2. Potential Impact of Problem:** Warmstart
 - 3. Problem Severity:** Moderate
 - 4. Pervasive Problem:** No
- ID# 335415

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Higher response times after CDA to 88.24.6.0 or later

- 1. Problem Description:** Excessive cache is being allocated to sequential workloads causing increased cache demote of random tracks.
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** Yes

ID# 335470

0x13DA MLE

- 1. Problem Description:** Two Dynamic Extent Relocation requests are migrating the same extent
- 2. Potential Impact of Problem:** Warmstart
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 335529

Easy Tier stats collection stalled

- 1. Problem Description:** After a warmstart, Easy Tier may fail to allocate stat buffers for new volumes
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 335547

0x1045 MLE

- 1. Problem Description:** Device Adapter requested to stage past the last sector in the track
- 2. Potential Impact of Problem:** Warmstart
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 336014

0x0632 MLE

- 1. Problem Description:** During Copy Source to Target operation, Space Release caused the target extent to be deallocated
- 2. Potential Impact of Problem:** Warmstart
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 336085

0x7410 MLE

- 1. Problem Description:** When establishing a Metro-Global-Mirror session, if A->B is established before B->C, I/O will be flowing to B during the B->C establish, exposing a microcode logic error.
- 2. Potential Impact of Problem:** Warmstart
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** Yes

ID# 336397

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High PPRC response times

- 1. Problem Description:** Lock contention on PPRC secondary during write complete processing
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 336501

HMC Java OutOfMemory condition

- 1. Problem Description:** Missing statement.close() caused a java.lang.OutOfMemoryError condition
- 2. Potential Impact of Problem:** HMC communication failures
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 336651

PPRC Track Format Descriptor mismatch

- 1. Problem Description:** Task was aborted on primary, but completed normally on secondary
- 2. Potential Impact of Problem:** PPRC Suspend
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 336838

0x7200 MLE

- 1. Problem Description:** A locking issue led to code checking a Concurrent Copy volume bitmap that no longer existed.
- 2. Potential Impact of Problem:** Warmstart
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 337053

0x0109 MLE

- 1. Problem Description:** Lock spin timeouts occurred during warmstart.
- 2. Potential Impact of Problem:** Multiple warmstarts, failover
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 337366

Service: A recoverable error, Service improvements.

Heat Map Transfer Utility did not run after changing start time.

- 1. Problem Description:** When changing the start time for heat map transfer, the change does not take effect until after the previously scheduled time has passed.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 284341

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Committed Bundle VRMF not updated after CDA

- 1. Problem Description:** Needed logs were pruned. This defect addresses First-Time Data Capture improvement.
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 327902

Heat Map Transfer Utility listening on random TCP port

- 1. Problem Description:** HMTU interface process was communicating with the HMTU daemon via ephemeral external interface port, rather than using an internal localhost connection.
 - 2. Potential Impact of Problem:** Security scan concerns
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 329489

0x01B7 MLE

- 1. Problem Description:** Lock contention during Copy Services write intercept to set/reset track Out of Sync bit
 - 2. Potential Impact of Problem:** On Demand Data (ODD) dump
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** Yes
- ID# 330095

Problem importing locally administered certificates

- 1. Problem Description:** GUI messages are providing the incorrect HMC ID
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 331686

Unable to change array scrub rate

- 1. Problem Description:** Change to array scrub rate was rejected because another resource value was incorrectly initialized.
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 331744

Space Release failed on PPRC secondary

- 1. Problem Description:** During PPRC establish, code failed to determine that the secondary system was configured with space-efficient volumes.
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 331774

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DS GUI did not display VOLSER of a CKD volume

- 1. Problem Description:** When a new volume was created, DS GUI did not refresh the VOLSER, because there was no old VOLSER to update.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 331799

0x0109 MLE running DELPAIR when single cluster

- 1. Problem Description:** A locking exception can occur when primary is running single cluster, and there are no paths to the secondary.
- 2. Potential Impact of Problem:** Warmstart
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No

ID# 332574

Excessive logging of VOLSER change events

- 1. Problem Description:** VOLSER volume change events can appear to flood the event logs.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 332635

Unable to copy certificates from secondary HMC to primary HMC

- 1. Problem Description:** When downloading locally administered certificates created on the secondary HMC, to the primary HMC, browser shows the file has zero bytes.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 332904

CMUN00018E error accessing DS GUI or DSCLI

- 1. Problem Description:** ESSNI process fails to start because of an endless loop while processing user id / password pairs
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 333019

Encryption Wizard removes all server definitions

- 1. Problem Description:** When using the DS GUI Encryption Wizard to modify the key server list, all servers are removed, and the list must be recreated.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 333049

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CMUN02975E error when migrating ESE volume between pools

- 1. Problem Description:** Extent Space Efficient volume migration failed because the migration ate into the pool space reserved for... ESE volumes.
 - 2. Potential Impact of Problem:** Migration failure
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 333460

False SRC=BE33CE9C logged during warmstart

- 1. Problem Description:** During warmstart, Device Adapter reset code incorrectly flags a temporary loss of access.
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 333586

REST API authentication failure

- 1. Problem Description:** When HMCs are configured for LDAP authentication, REST API is unable to generate login token
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 333588

DSCLI 'lssestg' and 'showestg' incorrect output

- 1. Problem Description:** With DSCLI bundle from R8.1 or higher, and a target system on R8.0 or lower, DSCLI shows wrong percentage values.
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 333772

False SRC=BE11105B after CEC hard drive replacement

- 1. Problem Description:** After replacing a failed CEC hard drive, a microcode logic error caused a false serviceable event against the alternate CEC hard drive
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 333925

Data lost track list incorrect for volumes with 64-bit LBAs

- 1. Problem Description:** The listdataloss function does not produce a usable track list for volumes with 64-bit Logical Block Addresses
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 334005

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Transparent Cloud Tiering authentication error

- 1. Problem Description:** Intermittent unauthorized error when attempting to authenticate via cloud proxy
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 334169

CMUN80000E DS Network server is unavailable

- 1. Problem Description:** When remote authentication is enabled, local admin user could not connect because authentication request is being sent to LDAP
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 334265

CMUN04003E lshost: Operation failure: internal error

- 1. Problem Description:** When creating a very large number of host port definitions, internal Resource Manager query may exceed the allowed memory page size
 - 2. Potential Impact of Problem:** Cannot display/create host ports
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 334271

SRC=BE3A290D during IPL

- 1. Problem Description:** During z System IPL, DS8880 with zHyperLinks creates unnecessary serviceable events.
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 334322

Remote login authentication fails intermittently

- 1. Problem Description:** High volume of authentications, or DSCLI 'testauthpol' commands, can lead to a Java out-of-bounds condition.
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 334449

DS8880 service GUI information does not match z14

- 1. Problem Description:** zHyperLink details display in service GUI is not consistent with the information shown in z14
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 334478

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DSCLI information does not match z14

- 1. Problem Description:** zHyperLink details in 'lszhyperlinkport -metrics' is not consistent with the information shown in z14
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 334479

CEC to I/O bay PCIe link failure analysis

- 1. Problem Description:** Initial failure isolation of PCIe soft bus errors did not include all relevant FRUs when generating the serviceable event
 - 2. Potential Impact of Problem:** Multiple service actions
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 334482

0x1D07 MLE

- 1. Problem Description:** Host sent mode sense command to LUN address 0, but LUN address 0 was not assigned to a logical volume
 - 2. Potential Impact of Problem:** On Demand Data (ODD) dump
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** Yes
- ID# 334573

Cannot delete LSS

- 1. Problem Description:** Force option does not allow LSS deletion when volumes exist
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 334719

IEA3071 on PPRC secondary devices during IPL

- 1. Problem Description:** Sense Subsystem Status (SNSS) data did not accurately reflect that the PPRC secondary DS8K was in a cascading relationship.
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 334798

DSCLI rmckdvol command failed with message CMUC00189E

- 1. Problem Description:** Command failed because an incorrect storage image ID was provided, but the message text returned was not clear about the failure reason
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID# 334818

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SRC=BE3825A8 FRU list incomplete

- 1. Problem Description:** PCIe link failure SRC=BE3825A8 included the PCIe adapters in the CEC and I/O bay, but did not include the PCIe cable that connects between them
- 2. Potential Impact of Problem:** Extended service actions
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 334879

DSCLI lsextpool command returns '-' value

- 1. Problem Description:** Calculation of allocated extents exceeded the 32-bit maximum integer value, causing an arithmetic error
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 335058

Incorrect FRU call for PCIe adapter failure

- 1. Problem Description:** PCIe adapter failure correctly fenced LPAR0, but serviceable event called for replacement of the same adapter in CEC1
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 335193

SRC=BE340113 Health Check failed

- 1. Problem Description:** Health check failed because a file used to track health check failures was empty
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 335309

CSM configuration data missing after HMC update or reload

- 1. Problem Description:** If embedded Copy Services Manager has been updated using DSCLI 'installsoftware' method, and later the HMC is reloaded, or upgraded to a level that involves reload, the CSM configuration can be lost.
- 2. Potential Impact of Problem:** CSM not operational
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** Yes

ID# 335729

HMC backups could fill up /var filesystem in LPARs

- 1. Problem Description:** Function to prune old backup files fails to remove the files.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 336080

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HPFE Gen2 firmware fails to update during MES

- 1. Problem Description:** During install of new HPFE Gen2 enclosures or drive sets, the firmware update may begin before format is finished.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 336177

mkcloudserver returns ambiguous error messages

- 1. Problem Description:** Fix improves and adds error messages
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 336997

7.6 TB Flash drive errors

- 1. Problem Description:** Improve drive resiliency for 4K and 6K read workloads
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 337072

java/lang/OutOfMemoryError on LPARs

- 1. Problem Description:** Copy Services Commands contain too many repetitive strings
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 337260

HMC passwords reset to default after reload

- 1. Problem Description:** After HMC critical data restore, the security database sync operation was interrupted by a DSGUI login attempt.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 337451

Space Release issues during PPRC failover/failback

- 1. Problem Description:** Improper tracking of space release may cause increased data transfer once pair is resumed.
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate, Service
- 4. Pervasive Problem:** No

ID# 337891

IBM System Storage - DS8880 Disk Storage

Microcode Bundle 88.50.176.0 Release Note Information

DS GUI missing 'Encryption' tab

- 1. Problem Description:** After enabling encryption, DS GUI did not refresh the Encryption panel
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 337911

DS GUI shows incorrect recovery key state

- 1. Problem Description:** After enabling encryption, Recovery Key shown as 'Configured' but it had not been generated yet.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID# 337912

Improvements: Improvements for better usability

Improve missing extent checking during volume creation

- 1. Problem Description:** In the past, volume create could succeed in some cases where full provisioned volumes did not allocate all extents. This fix enhances the extent checking code to prevent future occurrences.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Improvement
- 4. Pervasive Problem:** No

ID# 329365

Change default GM ESE space release parameters

- 1. Problem Description:** The default values for the following Global Mirror Extent Space Efficient space release parameters are changed:
csEsePoolOverThresholdValue = 85
csEsePoolOFSValue = 97
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Improvement
- 4. Pervasive Problem:** No

ID# 333611

lsrank slow output on large ranks

- 1. Problem Description:** Multiple improvements were made to streamline the querying of rank resources
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Improvement
- 4. Pervasive Problem:** No

ID# 334768

IBM System Storage - DS8880 Disk Storage

Microcode Bundle 88.50.176.0 Release Note Information

CSM backup restore enhancements

- 1. Problem Description:** During HMC reload, prevent CSM from performing a backup if it has not yet been restored. Also, if a newer CSM package exists on the LPARs, install the package, and then restore the backup.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Improvement
- 4. Pervasive Problem:** No

ID# 336382

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