

IBM System Storage - DS8700 Disk Storage 1 **Microcode Bundle 76.31.177.0 Release Note Information v1**

Release Date: December 2, 2016

VRMF Level Data Results:

VRMF level From:	76.31.169.0
VRMF Level To:	76.31.177.0
Report for:	All DS8700

Code Bundle Contents

This table includes code component reference information.

DS8000 Code Bundle Level	SEA or LMC Version: Used with dscli ver command.	CLI Client Level	Storage Manager Code Level
76.31.177.0	6.6.31.1900	6.6.31.1900	5.6.31.1378

Overview of new features and functions supported by this release on DS8700, 242x model 941

At a glance:

- AOS v4 support
- Problem fixes
- Serviceability enhancements
- Improvements

This new microcode release only supports the DS8700.

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.

Device Adapter showstop error after DDM failure

- 1. Problem Description:** A microcode logic error while processing a DDM failure caused data loss
 - 2. Potential Impact of Problem:** loss of data,
 - 3. Problem Severity:** High Impact
 - 4. Pervasive Problem:** No
- ID#: 301292

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

Failed path not removed from path group

- 1. Problem Description:** During host adapter fastload, a path failed to resume, but was left in the path group
 - 2. Potential Impact of Problem:** Hyperswap fail
 - 3. Problem Severity:** High Impact
 - 4. Pervasive Problem:** No
- ID#: 304350

Loss of Access to RAID-6 arrays caused by DA NVRAM failure

- 1. Problem Description:** RAID-6 arrays may go offline for ~90 seconds after a Device Adapter NVRAM failure.
 - 2. Potential Impact of Problem:** loss of access
 - 3. Problem Severity:** High Impact
 - 4. Pervasive Problem:** No
- ID#: 313179

Ranks created without spares

- 1. Problem Description:** Ranks that should have been created with spares (6+P+S) were created without (7+P). If this happens with only two ranks on a DA Pair, no spares will be available.
 - 2. Potential Impact of Problem:** loss of access
 - 3. Problem Severity:** High Impact
 - 4. Pervasive Problem:** No
- ID#: 315128

Loss of access during Device Adapter replacement

- 1. Problem Description:** Temporary loss of access may occur during DA replacement in a large configuration, because of a microcode logic error.
 - 2. Potential Impact of Problem:** loss of access
 - 3. Problem Severity:** High Impact
 - 4. Pervasive Problem:** No
- ID#: 315732

Adapter showstop errors on both Device Adapters

- 1. Problem Description:** A microcode logic error triggered repeated showstop errors on both DAs in the pair.
 - 2. Potential Impact of Problem:** loss of access
 - 3. Problem Severity:** High Impact
 - 4. Pervasive Problem:** No
- ID#: 315843

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0x60CA timeout MLE

- 1. Problem Description:** Multiple microcode logic timeout errors were triggered by a specific CCW chain:
CCW RC/RCMT with ccwByteCount=8, followed by
Data Chain CCW RC/RCMT with any ccwByteCount
 - 2. Potential Impact of Problem:** loss of access
 - 3. Problem Severity:** High Impact
 - 4. Pervasive Problem:** No
- ID#: 320238

Array offline, pinned data

- 1. Problem Description:** During device adapter recovery, function to disable adapter ports can take > 2 minutes to complete, causing temporary loss of access to arrays.
 - 2. Potential Impact of Problem:** loss of access
 - 3. Problem Severity:** High Impact
 - 4. Pervasive Problem:** No
- ID#: 320850

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

0x5168 MLE with 145 ranks configured

- 1. Problem Description:** When 145 total ranks are configured, incorrect data transfer on Log sense 34h command can trigger a microcode logic error.
 - 2. Potential Impact of Problem:** Warmstart
 - 3. Problem Severity:** Moderate
 - 4. Pervasive Problem:** No
- ID#: 310447

I/O timeouts, transaction purge

- 1. Problem Description:** A failing DDM in a RAID-5 array may impact write performance, until it is rejected from the array.
 - 2. Potential Impact of Problem:** degraded performance
 - 3. Problem Severity:** Moderate
 - 4. Pervasive Problem:** No
- ID#: 311955

Performance impact during host adapter update

- 1. Problem Description:** PPRC was continuing to use a path that was experiencing errors. Host adapter update recycled the good path, exposing the problem.
 - 2. Potential Impact of Problem:** degraded performance
 - 3. Problem Severity:** Moderate
 - 4. Pervasive Problem:** No
- ID#: 312808

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TPF host reports sense F019 and stalled TPF modules

- 1. Problem Description:** Under certain conditions, a smart rebuild abort on a RAID-10 array may pause I/O to the array for 5 seconds.
 - 2. Potential Impact of Problem:** degraded performance
 - 3. Problem Severity:** Moderate
 - 4. Pervasive Problem:** No
- ID#: 315393

0x4159 MLE

- 1. Problem Description:** When async PPRC performs a CKD track prestage of requested sectors only, an exposure exists where the entire track may need to stage, but it does not.
 - 2. Potential Impact of Problem:** Warmstart
 - 3. Problem Severity:** Moderate
 - 4. Pervasive Problem:** No
- ID#: 317939

IEA494I pair suspended, extended long busy state

- 1. Problem Description:** When Easy Tier migrates data to a different adapter pair, a timing window exists where the migration can hang, while holding all the task control blocks.
 - 2. Potential Impact of Problem:** PPRC suspend
 - 3. Problem Severity:** Moderate
 - 4. Pervasive Problem:** No
- ID#: 321894

Service: A recoverable error, Service improvements.

Secure Data Overwrite failure

- 1. Problem Description:** No completion certificate generated if overwrite process fails on HMC drive.
 - 2. Potential Impact of Problem:** Extended SDO process
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID#: 307647

Background media scan false positives

- 1. Problem Description:** On certain 300G/15K drive families, log entries created by internal scan routines are being mis-counted as media events.
 - 2. Potential Impact of Problem:** Excessive drive replacements
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID#: 309568

HMC contacting addons.mozilla.org

- 1. Problem Description:** Firefox language pack addons periodically check for updates. This is benign, but the traffic appears suspicious. HMC configuration has been changed to block the outbound traffic.
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID#: 314354

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Security scan missing TLS v1.2

- 1. Problem Description:** Legacy port 9660 was open for MSIE applet compatibility. This port was no longer used, so was not updated for TLS v1.2 authentication, causing security scans to flag the vulnerability.
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID#: 314401

Dual HMC sync problems

- 1. Problem Description:** When dual HMCs both start up together, Problem Analysis primary domain assignment process may never finish.
 - 2. Potential Impact of Problem:** Serviceable Event callhome failure
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID#: 315282

HMC restore failure

- 1. Problem Description:** Dual HMCs backup can transfer the data to the LPARs at the same time, which can cause corrupted backup.
 - 2. Potential Impact of Problem:** Extended service action
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID#: 315489

LPAR hard drive reload failure

- 1. Problem Description:** Ping failures cause abort, even though communication was already established
 - 2. Potential Impact of Problem:** Extended service action
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID#: 315612

Storage Enclosure add MES failed

- 1. Problem Description:** Failure was caused by Resource Manger out-of-memory condition. Fix adds RM memory usage tracing
 - 2. Potential Impact of Problem:** Extended service action
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID#: 316929

Heartbeat callhome failure in 2x2 configurations

- 1. Problem Description:** In a 2x2 configuration (two storage facilities sharing two HMCs), the heartbeat data exceeds the internal array size.
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID#: 317131

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Customer notifications messages malformed

- 1. Problem Description:** Notification messages that exceed 70 bytes may have a break in the middle of a word
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID#: 317949

Multiple call-home for a single serviceable event

- 1. Problem Description:** HMC problem analysis may not properly determine that a serviceable event was already called in.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID#: 318252

Secure Data Overwrite failure

- 1. Problem Description:** CEC hard drive mirroring could not be terminated because a member drive was not in a good state. Fix will perform additional checks prior to beginning SDO.
- 2. Potential Impact of Problem:** Extended SDO process
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID#: 318506

DDM power module install fails with "incompatible FRU"

- 1. Problem Description:** Module CCIN was changed, but MES code path was not updated.
- 2. Potential Impact of Problem:** MES failure
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID#: 319353

NI Client out of memory error

- 1. Problem Description:** When a connection failure occurs, server is retrying too quickly
- 2. Potential Impact of Problem:** None
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID#: 319404

Stale data in heartbeat callhome

- 1. Problem Description:** Heartbeat snap data was collected from the wrong location
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID#: 320320

lsddm displays incorrect DDM model information

- 1. Problem Description:** DSCLI appends capacity after the DDM family info which results in incorrect model info
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No

ID#: 320767

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Error in DSCLI readme text

- 1. Problem Description:** README file states minimum JRE 1.4.2, minimum is actually JRE 1.6 or above
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
- ID#: 322194

Improvements: Improvement for better usability

None.

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