

IBM System Storage - DS8870 Disk Storage

Microcode Bundle 87.21.30.0 Release Note Information v1

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Release Date: June 11, 2014

VRMF Level Data Results:

VRMF level From:	87.21.16.0
VRMF Level To:	87.21.30.0
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
87.21.30.0	7.7.21.62	7.7.21.62	7.7.21.62	7.7.21.62	7.7.21.62	5.7.21.1028

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

At a glance:

- 'Heartbleed' vulnerability fix
- Apache Struts v1 vulnerability fix

This 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

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Acute: An irrecoverable error with potential loss of data.

None

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

OpenVMS could not use DS8870 volume as a quorum dis

1. **Problem Description:** OpenVMS attempts to modify the Application Tag Owner (ATO) bit, which is not changeable in DS8870. The resultant error causes OpenVMS to not allow the volume to be used in a clustered environment.
2. **Potential Impact of Problem:** Cannot use 8870 volumes in a clustered OpenVMS environment
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID#: 288164

zHPF with TCAX can expose a microcode logic error

1. **Problem Description:** When zHPF with TCAX a microcode logic error can result in multiple warmstarts and fenced host adapters. This could fence all host adapters in the DS8000.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID#: 290365

Internal communication error causes enclosure power off

1. **Problem Description:** Communication failure between the enclosure controller cards can result in both cards taking control of the internal serial bus which can result in the storage enclosure powering off.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes

ID#: 292022

Track Space Efficient repository greater than 19GB exposure

1. **Problem Description:** Track Space Efficient (TSE) repositories greater than 19TB (19456 GB) are exposed to corruption of the data contained in the repository that can result in a loss of access.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID#: 293344

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Fabric login to a Brocade switch with VVL bit set causes reboot

1. **Problem Description:** If the Vendor Version Level (VVL) field has non-zero values then the Brocade switch will reboot. These bits will be set to all zeros when the DS8000 initiates fabric login to the switch.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID#: 294098

Host adapter Sequence Buffer Memory leak

1. **Problem Description:** Loss of access caused by microcode logic error managing sequence buffer memory
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No

ID#: 295463

Host I/O time-outs when PPRC bit maps are merged

1. **Problem Description:** When consistency groups fail to form the internal data structure is locked while bit maps are merged. Host I/O will be held off during the merge, due to the lock. This problem is exposed with large volume sizes.
2. **Potential Impact of Problem:** degraded performance, high RPO, loss of access possible
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes

ID#: 296179

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

Unexpected reset soft fence of a volume can prevent hyperswap

1. **Problem Description:** If a volume does not have soft fence set then a reset soft fence condition is unexpected and can prevent hyperswap
2. **Potential Impact of Problem:** temporary loss of hyperswap
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No

ID#: 292777

PPRC link in High Failure Rate mode

1. **Problem Description:** Initial PPRC I/O operation on an adapter port is rejected, causing link to go into High Failure Rate mode. Subsequent I/O operations are not affected.
2. **Potential Impact of Problem:** Degraded PPRC performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No

ID#: 293529

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LUNs in hybrid pools reported as SSD

1. **Problem Description:** LUNs in hybrid pools consisting of both solid-state and rotational drives are all being reported as SSD.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No

ID#: 295996

Global Mirror drain failure recovery

1. **Problem Description:** When the Global Copy Collision code is enabled, if a Global Mirror collision occurs together with a Global Copy collision, the Global Mirror collision may be queued behind the Global Copy transfer.
2. **Potential Impact of Problem:** Elongated consistency group times
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No

ID#: 296338

Service: A recoverable error, Service improvements.

Host Adapter port error causes warmstart

1. **Problem Description:** Intermittent parity errors cause adapter reset, which in turn causes warmstart. For these errors it is not necessary to reset the entire adapter.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes

ID#: 284345

Fenced DC-UPS

1. **Problem Description:** A communication problem between the DC-UPS DC Supply Unit, and a single Battery Service Module, can cause the DC-UPS to become fenced. This change will cause the BSM set to fence instead.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 285247

Unit Exception is returned when Unit Check Status should be

1. **Problem Description:** With zHPF enabled when the domain count is X'01', if the DCW count is inconsistent with TLF count a Unit Exception is reported to the channel when Unit Check Status should have been reported.
2. **Potential Impact of Problem:** Interface control check reported
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 288166

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DS8000 returns the incorrect status flags 1 value for CRC errors

1. **Problem Description:** With zHPF enabled the DS8000 returns the wrong value in the status flags 1 field when invalid CRC is detected.
2. **Potential Impact of Problem:** incorrect status returned to host
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 288169

LPAR MCP objects deleted when HMC to LPAR communication lost

1. **Problem Description:** A repair was not allowed because the service lock could not be found. Also, HMC may not properly refresh state of LPARs until communication is restored, and the MCP objects regenerate.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes

ID#: 289183

DS GUI 'Download Spreadsheet' function fails

1. **Problem Description:** On the 'Monitor Tasks' page, the 'Download Spreadsheet' function does nothing. The function does work on other pages
2. **Potential Impact of Problem:** Unable to download task log information to spreadsheet
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 293400

Extent Space Efficient volume capacity reported incorrectly by DSCLI

1. **Problem Description:** Space dedicated to ESE volume management overhead is being over-reported
2. **Potential Impact of Problem:** ESE volumes appear to be smaller than they are
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 293592

Extent Space Efficient volume capacity reported incorrectly by DS GUI

1. **Problem Description:** Space dedicated to ESE volume management overhead is being over-reported
2. **Potential Impact of Problem:** ESE volumes appear to be smaller than they are
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 293628

HMC hang during repair

1. **Problem Description:** In dual HMC configurations, if the HMC object for one HMC is lost or deleted, the partner HMC can enter a retry loop
2. **Potential Impact of Problem:** Unable to access the 'good' HMC
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 293710

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Encryption key servers incorrectly shown as failed

1. **Problem Description:** During box IML, HMC could not access machine info for the key servers because the IML was not complete. This caused the key server heartbeat thread to crash, so the key server status did not update once the machine info was available.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 294587

Incomplete secure erase of self-encrypting drives

1. **Problem Description:** Areas of self-encrypting drives that are reserved for metadata and adapter dumps are not being overwritten during secure erase.
2. **Potential Impact of Problem:** Incomplete erase, and false drive failures
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 294675

Device harvest on large systems causes extended code update time

1. **Problem Description:** During code update, there are normally errors generated that are expected, but must still be handled. On large systems, the handling of these errors consumes resources needed to complete the code update process.
2. **Potential Impact of Problem:** Extended concurrent update window
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes

ID#: 294751

Drive failures during Secure Data Overwrite

1. **Problem Description:** Drive failures during SDO cause early termination, and multiple attempts to complete the process.
2. **Potential Impact of Problem:** Extended SDO runtime
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 295522

SRC B1818A10 during CDA update of p7 firmware

1. **Problem Description:** False SRC causes CDA suspend. This change will veto the SRC.
2. **Potential Impact of Problem:** Extended service window to complete CDA
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 296358

Callhome problem after AOS session

1. **Problem Description:** SSL callhome fails after an AOS session, when Customer is using the same proxy to access AOS inbound and SSL outbound.
2. **Potential Impact of Problem:** Unable to call home for service
3. **Problem Severity:** Service
4. **Pervasive Problem:** No

ID#: 297318

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Improvements: Improvement for better usability

Eliminate 'Heartbleed' vulnerability

- 1. Problem Description:** HMC CIM agent in r7.2 is exposed to the 'Heartbleed' vulnerability
- 2. Potential Impact of Problem:** CIM agent private key/certificate may be exposed
- 3. Problem Severity:** Improvement
- 4. Pervasive Problem:** No

ID#: 296229

Eliminate Apache Struts v1 vulnerability

- 1. Problem Description:** Change implements a new servlet class (ParamFilter) that will filter out injected parameters that can otherwise be used to exploit the vulnerability.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Improvement
- 4. Pervasive Problem:** No

ID#: 297176

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