IBM System Storage - DS8880 Disk Storage
Microcode Bundle 88.40.62.0 Release Note Information

Release Date: July 18, 2018

VRMF Level Data Results:

<table>
<thead>
<tr>
<th>VRMF level From:</th>
<th>New version - no previous releases</th>
</tr>
</thead>
<tbody>
<tr>
<td>VRMF Level To:</td>
<td>88.40.62.0</td>
</tr>
<tr>
<td>Report for:</td>
<td>All DS8880</td>
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</tbody>
</table>

Overview of new features and functions supported by this release

At a glance:
- Support for High-Capacity 7.68 TB flash drives
- Enablement of FlashCopy in Transparent Cloud Tiering
- Containers support for IBM Storage

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:

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<thead>
<tr>
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<th>High Impact</th>
<th>Moderate</th>
<th>Service</th>
<th>Improvements</th>
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<td>1</td>
<td>- Acute: An irrecoverable error with potential loss of data.</td>
<td>- A function not operational and/or performance might be degraded.</td>
<td>- A recoverable error (no impact) and service improvements.</td>
<td>- Improvement changes for better Usability and Serviceability.</td>
</tr>
<tr>
<td>2</td>
<td>- Serious: An irrecoverable error with potential loss of access to data.</td>
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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.

**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

**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

**0x2562 MLE / 0x11B6 MLE**
1. **Problem Description:** Inconsistent Device Adapter task pointers resulted in multiple Microcode Logic Errors.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
   ID# 334675

**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:** Incorrect error recovery
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
   ID# 335122

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

**0x7ECB MLE**
1. **Problem Description:** During a Flash Copy withdraw and split operation, a duplicate Flash Copy relation was registered.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
ID# 331890

**XRC suspend with msg ANTX8117I**
1. **Problem Description:** Ref: APAR OA54082 - XRC suspend caused by an error in consistency time handling, when a datamover is idle.
2. **Potential Impact of Problem:** XRC suspend
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
ID# 332112

**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

**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
Excessive re-copying of data with suspended PPRC pair
1. **Problem Description:** In a Multi-Target PPRC environment, when one of the pairs is suspended, tracking of Out-Of-Sync tracks may incorrectly cause unnecessary re-copying of data when the pair is resumed.
2. **Potential Impact of Problem:** Delayed PPRC resync
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
ID# 334763

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

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

**Service: A recoverable error, Service improvements.**

DS GUI displays wrong LIC bundle level
1. **Problem Description:** DS GUI incorrectly parsed the CDA history.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
ID# 327155

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
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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

HTTPS certificate chain broken after CDA
1. Problem Description: Customer-provided certificate chain was missing the root Certificate Authority after code bundle update
2. Potential Impact of Problem: Unable to access DS GUI
3. Problem Severity: Service
4. Pervasive Problem: No
ID# 331866

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

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

Incorrect status displayed after MT-PPRC failback
1. Problem Description: After successful PPRC failback in a Multi-Target environment, query of PPRC status continues to show 'Pri-Sus'
2. Potential Impact of Problem: none
3. Problem Severity: Service
4. Pervasive Problem: No
ID# 334362

Host bay firmware update failed
1. Problem Description: If the initial firmware query fails, the retry path does not correctly handle some host bay location codes.
2. Potential Impact of Problem: none
3. Problem Severity: Service
4. Pervasive Problem: No
ID# 334889
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

**Improvements: Improvements for better usability**

None.
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