

# IBM System Storage - DS8880 Disk Storage

## 88.30.x.x Release Notes Cumulative Summary v2.4.1

Date: September 13, 2018

### VRMF Level Data Results:

VRMF level From:	88.30.137.0
VRMF Level To:	88.33.46.0
Report for:	All DS8880

### Code Bundle Contents

DS8880 Code Bundle Level	SEA or LMC Version:	DSCSI Client	Heat Map Transfer Utility	Storage Manager	Copy Services Manager
88.33.46.0	7.8.33.144	7.8.40.180	7.8.33.144	5.8.33.1059	6.2.2
88.33.41.0	7.8.33.131	7.8.33.131	7.8.33.131	5.8.33.1053	6.2.2
88.33.35.0	7.8.33.113	7.8.33.113	7.8.33.113	5.8.33.1045	6.2.2
88.33.34.0	7.8.33.111	7.8.33.111	7.8.33.111	5.8.33.1044	6.2.2
88.31.55.0	7.8.31.147	7.8.40.180	7.8.31.147	5.8.31.1062	6.2.1
88.31.51.0	7.8.31.139	7.8.33.113	7.8.31.139	5.8.31.1057	6.2.1
88.31.49.0	7.8.31.135	7.8.31.126	7.8.31.126	5.8.31.1055	6.2.1
88.31.46.0	7.8.31.126	7.8.31.126	7.8.31.126	5.8.31.1052	6.2.1
88.30.145.0	7.8.30.490	7.8.30.470	7.8.30.470	5.8.30.1183	6.2.0
88.30.141.0	7.8.30.481	7.8.30.470	7.8.30.470	5.8.30.1178	6.2.0
88.30.137.0	7.8.30.473	7.8.30.473	7.8.30.473	5.8.30.1174	6.2.0

This is a summary of the fixes in the R8.3 microcode releases.

### 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

# IBM System Storage - DS8880 Disk Storage

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### **Acute: An irrecoverable error with potential loss of data.**

#### **HIPER I/O errors and potential data loss on IBM i systems running Global Mirror**

1. **Problem Description:** <http://www-01.ibm.com/support/docview.wss?uid=ssglS1010815>
2. **Potential Impact of Problem:** loss of data, degraded performance
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.31.46.0

ID#: 331863

#### **Potential data loss with ESE CKD volumes**

1. **Problem Description:** An exposure has been identified in DS888x systems running Metro Mirror or Global Copy, with ESE CKD volumes. The exposure exists in a specific usage case where the copy pair is suspended, and the DFSMSDss SPACEREL function is run against the non-production member.
2. **Potential Impact of Problem:** loss of data
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.31.46.0

ID#: 332859

#### **HIPER I/O errors and potential data loss on IBM i systems running Global Mirror**

1. **Problem Description:** <http://www-01.ibm.com/support/docview.wss?uid=ssglS1010815>
2. **Potential Impact of Problem:** loss of data, degraded performance
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.30.141.0

ID#: 331863

#### **0xE1C7 MLE and reboot during LPAR quiesce**

1. **Problem Description:** A timing window exists where a warmstart during NVS scrub may incorrectly clear a flag indicating the NVS scrub was in process.
2. **Potential Impact of Problem:** loss of data
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.30.137.0

ID#: 330872

# IBM System Storage - DS8880 Disk Storage

## 88.30.x.x Release Notes Cumulative Summary v2.4.1

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

#### **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
5. **Release Bundle:** 88.33.46.0

ID#: 332765

#### **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
5. **Release Bundle:** 88.33.46.0

ID#: 335122

#### **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
5. **Release Bundle:** 88.33.46.0

ID#: 335351

#### **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
5. **Release Bundle:** 88.33.46.0

ID#: 335935

# IBM System Storage - DS8880 Disk Storage

## 88.30.x.x Release Notes Cumulative Summary v2.4.1

### 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
5. **Release Bundle:** 88.33.46.0  
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:** Permanent I/O errors
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.33.46.0  
ID#: 337250

### 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
5. **Release Bundle:** 88.33.41.0  
ID#: 335122

### **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
5. **Release Bundle:** 88.33.35.0  
ID#: 333868

### Windows cluster reservation conflict

1. **Problem Description:** SCSI-3 persistent reservation was not released when the reservation holder unregistered
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.33.34.0  
ID#: 332762

# IBM System Storage - DS8880 Disk Storage

## 88.30.x.x Release Notes Cumulative Summary v2.4.1

### **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 result if multiple host bays encounter this problem.
  2. **Potential Impact of Problem:** loss of access
  3. **Problem Severity:** HIPER
  4. **Pervasive Problem:** Yes
  5. **Release Bundle:** 88.33.34.0
- ID#: 333448

### 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
  5. **Release Bundle:** 88.31.55.0
- ID#: 334675

### 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
  5. **Release Bundle:** 88.31.55.0
- ID#: 336893

### MT-PPRC failure during Hyperswap

1. **Problem Description:** During Hyperswap, a Multi-Target PPRC volume failed to reset Long Busy state.
  2. **Potential Impact of Problem:** loss of access
  3. **Problem Severity:** High Impact
  4. **Pervasive Problem:** No
  5. **Release Bundle:** 88.31.51.0
- ID#: 332004

### **HIPER** CKD volumes 'reserve pending'

1. **Problem Description:** When sending split ending status, the device end can end up stacked. In Hyperswap environments, a scenario exists that can lead to the stacked status never being cleared.
  2. **Potential Impact of Problem:** loss of access
  3. **Problem Severity:** HIPER
  4. **Pervasive Problem:** Yes
  5. **Release Bundle:** 88.31.51.0
- ID#: 332581

# **IBM System Storage - DS8880 Disk Storage**

## **88.30.x.x Release Notes Cumulative Summary v2.4.1**

### **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
- 5. Release Bundle:** 88.31.51.0

ID#: 333868

### **Windows cluster reservation conflict**

- 1. Problem Description:** SCSI-3 persistent reservation was not released when the reservation holder unregistered
- 2. Potential Impact of Problem:** loss of access
- 3. Problem Severity:** High Impact
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 88.31.49.0

ID#: 332762

### **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 result if multiple host bays encounter this problem.
- 2. Potential Impact of Problem:** loss of access
- 3. Problem Severity:** HIPER
- 4. Pervasive Problem:** Yes
- 5. Release Bundle:** 88.31.49.0

ID#: 333448

### **Temporary loss of access during DA error recovery**

- 1. Problem Description:** A Device Adapter was reset while the partner adapter was also being reset.
- 2. Potential Impact of Problem:** loss of access
- 3. Problem Severity:** High Impact
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 88.31.46.0

ID#: 326608

### **0x7DEA MLE running MT-PPRC with preserve mirror**

- 1. Problem Description:** Clients running Multi-Target PPRC with preserve mirror are exposed to a microcode logic error caused by an incorrect Out-of-Sync bitmap.
- 2. Potential Impact of Problem:** loss of data on target volume
- 3. Problem Severity:** High Impact
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 88.31.46.0

ID#: 328458

# **IBM System Storage - DS8880 Disk Storage**

## **88.30.x.x Release Notes Cumulative Summary v2.4.1**

### **HPFE Gen2 cross-card communication failure**

1. **Problem Description:** Cross-card communication failed during firmware update because of a buffer overrun.
  2. **Potential Impact of Problem:** loss of access
  3. **Problem Severity:** High Impact
  4. **Pervasive Problem:** No
  5. **Release Bundle:** 88.31.46.0
- ID#: 328988

### **LPAR IML hang**

1. **Problem Description:** Force destage to a volume with missing extents caused a microcode logic error during LPAR IML.
  2. **Potential Impact of Problem:** loss of access
  3. **Problem Severity:** High Impact
  4. **Pervasive Problem:** No
  5. **Release Bundle:** 88.31.46.0
- ID#: 329288

### **Loss of Access during CDA**

1. **Problem Description:** Multiple Problem Analysis issues led to an out-of-resource condition.
  2. **Potential Impact of Problem:** loss of access
  3. **Problem Severity:** High Impact
  4. **Pervasive Problem:** No
  5. **Release Bundle:** 88.31.46.0
- ID#: 329704

### **HIPER Potential Loss of Access for z Systems running Dataset Level FlashCopy**

1. **Problem Description:** <http://www.ibm.com/support/docview.wss?uid=ssg1S1012155>
  2. **Potential Impact of Problem:** loss of access
  3. **Problem Severity:** HIPER
  4. **Pervasive Problem:** Yes
  5. **Release Bundle:** 88.31.46.0
- ID#: 330013

### **Repeated 0x7003 MLE**

1. **Problem Description:** During CS metadata track recovery, an unexpected reason code triggered a microcode logic error.
  2. **Potential Impact of Problem:** loss of access
  3. **Problem Severity:** High Impact
  4. **Pervasive Problem:** No
  5. **Release Bundle:** 88.31.46.0
- ID#: 330348

# **IBM System Storage - DS8880 Disk Storage**

## **88.30.x.x Release Notes Cumulative Summary v2.4.1**

### **HIPER Cache segment demote scan stalled**

1. **Problem Description:** Accelerated LRU queue was stalled, but was not marked as stalled, so segments were not demoted out of cache
  2. **Potential Impact of Problem:** Repeated warmstarts, loss of access
  3. **Problem Severity:** HIPER
  4. **Pervasive Problem:** Yes
  5. **Release Bundle:** 88.31.46.0
- ID#: 330499

### **Production impact during incremental Flash Copy**

1. **Problem Description:** When managed out-of-band by CSM, the primary volume was being quiesced during PPRC failback.
  2. **Potential Impact of Problem:** loss of access
  3. **Problem Severity:** High Impact
  4. **Pervasive Problem:** No
  5. **Release Bundle:** 88.31.46.0
- ID#: 331945

### **V-RAID adapter timeouts during array rebuild**

1. **Problem Description:** SAS T10 errors on rebuild target drive caused repeated resets of both V-RAID adapters.
  2. **Potential Impact of Problem:** loss of access
  3. **Problem Severity:** High Impact
  4. **Pervasive Problem:** No
  5. **Release Bundle:** 88.31.46.0
- ID#: 332374

### **HPFE Gen2 enclosure powered off**

1. **Problem Description:** False thermal sensor indications caused enclosure to power off.
  2. **Potential Impact of Problem:** loss of access
  3. **Problem Severity:** High Impact
  4. **Pervasive Problem:** No
  5. **Release Bundle:** 88.31.46.0
- ID#: 332414

### **Windows cluster reservation conflict**

1. **Problem Description:** SCSI-3 persistent reservation was not released when the reservation holder unregistered
  2. **Potential Impact of Problem:** loss of access
  3. **Problem Severity:** High Impact
  4. **Pervasive Problem:** No
  5. **Release Bundle:** 88.30.145.0
- ID#: 332762



# **IBM System Storage - DS8880 Disk Storage**

## **88.30.x.x Release Notes Cumulative Summary v2.4.1**

### **HIPER Cache segment demote scan stalled**

1. **Problem Description:** <http://www.ibm.com/support/docview.wss?uid=ssg1S1010881>
  2. **Potential Impact of Problem:** Repeated warmstarts, loss of access
  3. **Problem Severity:** HIPER
  4. **Pervasive Problem:** Yes
  5. **Release Bundle:** 88.30.137.0
- ID#: 330499

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

### **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
  5. **Release Bundle:** 88.33.46.0
- ID#: 335470

### **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
  5. **Release Bundle:** 88.33.46.0
- ID#: 335547

### **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
  5. **Release Bundle:** 88.33.41.0
- ID#: 332112

# **IBM System Storage - DS8880 Disk Storage**

## **88.30.x.x Release Notes Cumulative Summary v2.4.1**

### **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
  - 5. Release Bundle:** 88.33.41.0
- ID#: 332574

### **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
  - 5. Release Bundle:** 88.33.41.0
- ID#: 334084

### **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
  - 5. Release Bundle:** 88.33.41.0
- ID#: 334675

### **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
  - 5. Release Bundle:** 88.33.41.0
- 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
  - 5. Release Bundle:** 88.33.41.0
- ID#: 335067

# **IBM System Storage - DS8880 Disk Storage**

## **88.30.x.x Release Notes Cumulative Summary v2.4.1**

### **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
  - 5. Release Bundle:** 88.31.55.0
- ID#: 335470

### **0x0103 / 0x0109 MLE**

- 1. Problem Description:** During cache discard, related copy services sidefile entries were not properly managed.
  - 2. Potential Impact of Problem:** Warmstart
  - 3. Problem Severity:** Moderate
  - 4. Pervasive Problem:** Yes
  - 5. Release Bundle:** 88.31.51.0
- ID#: 330904

### **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
  - 5. Release Bundle:** 88.31.51.0
- ID#: 332112

### **IEA498I PPRC paths removed**

- 1. Problem Description:** PPRC paths failed after being moved to a different SAN
  - 2. Potential Impact of Problem:** loss of path
  - 3. Problem Severity:** Moderate
  - 4. Pervasive Problem:** No
  - 5. Release Bundle:** 88.31.46.0
- ID#: 331722

### **Poor cache hit ratios**

- 1. Problem Description:** This defect addresses multiple issues:
    - a.) SARC algorithm is not properly differentiating between random and sequential tracks on flash arrays.
    - b.) Error in LRU scan list management
    - c.) Error in scan stall management
  - 2. Potential Impact of Problem:** degraded performance
  - 3. Problem Severity:** Moderate
  - 4. Pervasive Problem:** Yes
  - 5. Release Bundle:** 88.31.46.0
- ID#: 327091

# **IBM System Storage - DS8880 Disk Storage**

## **88.30.x.x Release Notes Cumulative Summary v2.4.1**

### **SRC=BE11D004 FHD heartbeat timeout**

- 1. Problem Description:** Firehose Dump heartbeat timed out, triggering a warmstart.
  - 2. Potential Impact of Problem:** Warmstart
  - 3. Problem Severity:** Moderate
  - 4. Pervasive Problem:** Yes
  - 5. Release Bundle:** 88.31.46.0
- ID#: 327201

### **0x23AC MLE**

- 1. Problem Description:** Cache Track Request status indicator was overwritten, causing a Microcode Logic Error
  - 2. Potential Impact of Problem:** Warmstart
  - 3. Problem Severity:** Moderate
  - 4. Pervasive Problem:** No
  - 5. Release Bundle:** 88.31.46.0
- ID#: 329646

### **0x235B MLE with ESE primary and secondary volumes**

- 1. Problem Description:** With Extent Space-Efficient volume pairs, a timing window exists where the track Out-of-Sync bitmap may be incorrectly changed.
  - 2. Potential Impact of Problem:** Warmstart
  - 3. Problem Severity:** Moderate
  - 4. Pervasive Problem:** No
  - 5. Release Bundle:** 88.31.46.0
- ID#: 329712

### **Modified tracks not on correct LRU list**

- 1. Problem Description:** Modified tracks in HPFE Gen2 were being added to the incorrect LRU list.
  - 2. Potential Impact of Problem:** degraded performance
  - 3. Problem Severity:** Moderate
  - 4. Pervasive Problem:** No
  - 5. Release Bundle:** 88.31.46.0
- ID#: 330074

### **Inconsistent sequential read hit ratio**

- 1. Problem Description:** Cache not always choosing to demote where it will do the most good.
  - 2. Potential Impact of Problem:** degraded performance
  - 3. Problem Severity:** Moderate
  - 4. Pervasive Problem:** No
  - 5. Release Bundle:** 88.31.46.0
- ID#: 330372

# **IBM System Storage - DS8880 Disk Storage**

## **88.30.x.x Release Notes Cumulative Summary v2.4.1**

### **Incorrect cache metadata recovery**

- 1. Problem Description:** Cache metadata was not correctly invalidated
- 2. Potential Impact of Problem:** Warmstart
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 88.31.46.0

ID#: 330607

### **LRC error incorrectly fenced a Host Adapter**

- 1. Problem Description:** Sector LRC was good across the 524-byte IBM i sector, but was not good across the 512-byte data portion. When the sector was subsequently read, the data area LRC was not checked until it got to the host adapter.
- 2. Potential Impact of Problem:** loss of path
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 88.31.46.0

ID#: 330688

### **SRC=BE3526FC Host Adapter MLE**

- 1. Problem Description:** Host adapter firmware microcode logic error handling recovery for sequence timeouts.
- 2. Potential Impact of Problem:** Warmstart
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 88.31.46.0

ID#: 331663

### **0x9702 MLE**

- 1. Problem Description:** Error Recovery code collision during OnDemandDump processing
- 2. Potential Impact of Problem:** Warmstart
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 88.31.46.0

ID#: 331763

### **Background copy performance degradation**

- 1. Problem Description:** Flash Copy target destages are being grouped with non-Flash Copy target destages
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 88.30.145.0

ID#: 328406

# **IBM System Storage - DS8880 Disk Storage**

## **88.30.x.x Release Notes Cumulative Summary v2.4.1**

### **Increased IOSQ, CONN Times on R8.3 and/or RPO increase with R8.3 on Secondary**

- 1. Problem Description:** zHyperLink enablement in R8.3 is causing higher system overhead even though zHyperLink is not in use.
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 88.30.141.0  
ID#: 331722

### **0x111A MLE**

- 1. Problem Description:** A task control block was allocated, but was never freed. Problem was introduced in pre-GA R8.3 code.
- 2. Potential Impact of Problem:** Warmstart
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 88.30.137.0  
ID#: 330927

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

### **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
- 5. Release Bundle:** 88.33.46.0  
ID#: 334449

### **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
- 5. Release Bundle:** 88.33.46.0  
ID#: 335729

# **IBM System Storage - DS8880 Disk Storage**

## **88.30.x.x Release Notes Cumulative Summary v2.4.1**

### **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
  - 5. Release Bundle:** 88.33.46.0
- ID#: 336080

### **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
  - 5. Release Bundle:** 88.33.46.0
- ID#: 336177

### **CMUN80293E creating IPSEC connection**

- 1. Problem Description:** Code could not determine that IPSEC service was running because an OS change renamed the .pid file
  - 2. Potential Impact of Problem:** none
  - 3. Problem Severity:** Service
  - 4. Pervasive Problem:** No
  - 5. Release Bundle:** 88.33.46.0
- ID#: 336684

### **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
  - 5. Release Bundle:** 88.33.41.0
- 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
  - 5. Release Bundle:** 88.33.41.0
- ID#: 334362

# **IBM System Storage - DS8880 Disk Storage**

## **88.30.x.x Release Notes Cumulative Summary v2.4.1**

### **CMUN80293E creating IPSEC connection**

- 1. Problem Description:** Code could not determine that IPSEC service was running because an OS change renamed the .pid file
  - 2. Potential Impact of Problem:** none
  - 3. Problem Severity:** Service
  - 4. Pervasive Problem:** No
  - 5. Release Bundle:** 88.31.55.0
- ID#: 336684

### **DSCLI lsarraysite, lsextpool, and lsioport fail with CMUN00015E**

- 1. Problem Description:** Command hang when failing internal query of fibre channel ports caused an out-of-memory condition.
  - 2. Potential Impact of Problem:** none
  - 3. Problem Severity:** Service
  - 4. Pervasive Problem:** No
  - 5. Release Bundle:** 88.31.46.0
- ID#: 323754

### **Rank depopulate stalled**

- 1. Problem Description:** Unable to remove ranks because extents were stuck in 'Dynamic Segment Relocation Target' state.
  - 2. Potential Impact of Problem:** none
  - 3. Problem Severity:** Service
  - 4. Pervasive Problem:** No
  - 5. Release Bundle:** 88.31.46.0
- ID#: 327058

### **SRC=BE14CFEA key server heartbeat error**

- 1. Problem Description:** Key retrieval timeout value is smaller than necessary
  - 2. Potential Impact of Problem:** none
  - 3. Problem Severity:** Service
  - 4. Pervasive Problem:** No
  - 5. Release Bundle:** 88.31.46.0
- ID#: 327078

### **DS GUI page formatting issue**

- 1. Problem Description:** "Drive class" column format in "Arrays by pool" table is not formatted properly.
  - 2. Potential Impact of Problem:** none
  - 3. Problem Severity:** Service
  - 4. Pervasive Problem:** No
  - 5. Release Bundle:** 88.31.46.0
- ID#: 327390



# IBM System Storage - DS8880 Disk Storage

## 88.30.x.x Release Notes Cumulative Summary v2.4.1

### DSCLI error CMUN00018E

1. **Problem Description:** Current versions of DSCLI require TLSv1.2 authentication, which is not supported in Java Runtime Environments below 1.7. The system requirements have been updated in the DSCLI README file.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.31.46.0  
ID#: 329417

### No access to DS GUI or DSCLI

1. **Problem Description:** ESSNI server fails to start if the password minimum length is set to 16 characters.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.31.46.0  
ID#: 329715

### Key group critical status

1. **Problem Description:** DSCLI incorrectly shows key group status as 'Critical' when there is a gap in the key server list.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.31.46.0  
ID#: 330067

### Missing HMC critical data backup files

1. **Problem Description:** HMC was not able to perform a backup for an extended period, and all existing backups were pruned.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.31.46.0  
ID#: 330073

### SRC=BE14EAF1 does not auto-close

1. **Problem Description:** Key server communication should auto-close when communication has been re-established.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.31.46.0  
ID#: 330237

# **IBM System Storage - DS8880 Disk Storage**

## **88.30.x.x Release Notes Cumulative Summary v2.4.1**

### **PE package missing collectedCodeLevels file**

- 1. Problem Description:** PE package collection does not consistently offload the collectedCodeLevels.all file
  - 2. Potential Impact of Problem:** none
  - 3. Problem Severity:** Service
  - 4. Pervasive Problem:** No
  - 5. Release Bundle:** 88.31.46.0
- ID#: 330815

### **Key Server communication timeouts**

- 1. Problem Description:** Encryption key retrieval may time out when DS8000 HMC, Key Server, and HSM are all geographically dispersed across long distances.
  - 2. Potential Impact of Problem:** none
  - 3. Problem Severity:** Service
  - 4. Pervasive Problem:** No
  - 5. Release Bundle:** 88.31.46.0
- ID#: 330847, 330848

### **Incomplete FRU lists**

- 1. Problem Description:** Device Adapter and Storage Enclosure loop error FRU lists did not include the fiber cables.
  - 2. Potential Impact of Problem:** Multiple repair actions
  - 3. Problem Severity:** Service
  - 4. Pervasive Problem:** No
  - 5. Release Bundle:** 88.31.46.0
- ID#: 330980

### **Storage Enclosure firmware download failure**

- 1. Problem Description:** Preload precheck routines for HPFE Gen2 cause preload failures in systems that contain HPFE Gen1 enclosures.
  - 2. Potential Impact of Problem:** none
  - 3. Problem Severity:** Service
  - 4. Pervasive Problem:** Yes
  - 5. Release Bundle:** 88.31.46.0
- ID#: 331129

# **IBM System Storage - DS8880 Disk Storage**

## **88.30.x.x Release Notes Cumulative Summary v2.4.1**

### **Improvements: Improvements for better usability**

#### **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
- 5. Release Bundle:** 88.33.46.0

ID#: 336382

#### **Rank Scan Utility**

- 1. Problem Description:** Add utility to scan ranks for specific conditions under direction from development
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Improvement
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 88.31.46.0

ID#: 331336

#### **Allow ESE/STD PPRC volume intermix for DS8870 secondary systems**

- 1. Problem Description:** Support PPRC intermix when secondary system is DS8870, to facilitate migration testing scenarios.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Improvement
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 88.31.46.0

ID#: 331712

# **IBM System Storage - DS8880 Disk Storage**

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**88.30.x.x Release Notes Cumulative Summary v2.4.1**

# **IBM System Storage - DS8880 Disk Storage**

## **88.30.x.x Release Notes Cumulative Summary v2.4.1**

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