

IBM System Storage - DS8880 Disk Storage

88.10.x.x Release Notes Cumulative Summary v4.1

Date: July 31, 2017

VRMF Level Data Results:

VRMF level From:	88.10.112.0
VRMF Level To:	88.11.45.0
Report for:	All DS8880

Code Bundle Contents

DS8880 Code Bundle Level	SEA or LMC Version:	DS CLI Client	STAT Tool	Heat Map Transfer Utility	Storage Manager	Copy Services Manager
88.11.45.0	7.8.11.125	7.8.11.125	7.8.11.125	7.8.11.125	5.8.11.1052	6.1.3
88.11.32.0	7.8.11.83	7.8.11.83	7.8.11.83	7.8.11.83	5.8.11.1037	6.1.3
88.11.25.0	7.8.11.58	7.8.11.58	7.8.11.58	7.8.11.58	5.8.11.1029	6.1.3
88.11.21.0	7.8.11.49	7.8.11.49	7.8.11.49	7.8.11.49	5.8.11.1024	6.1.3
88.10.112.0	7.8.10.393	7.8.10.393	7.8.10.393	7.8.10.393	5.8.10.1167	6.1.1.2

This is a summary of the fixes in the R8.1 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

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Acute: An irrecoverable error with potential loss of data.

XRC data miscompare

1. **Problem Description:** A channel error occurred while processing a bitmap toggle command. The command was redriven, resetting bitmap values that should not have been reset.
 2. **Potential Impact of Problem:** Loss of data on XRC secondary
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.45.0
- ID#: 324307

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

Call Home on first instance of a Host Adapter MLE

1. **Problem Description:** Original design of DS8K was not to call home for HA Microcode Logic Errors until the third occurrence. These are normally recoverable by warmstart, but in some cases, temporary loss of access can occur.
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.45.0
- ID#: 310655

0x7F91 TCB manager deadlock

1. **Problem Description:** Cache was out of free segments, and a deadlock condition did not allow demote to free up additional cache segments.
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.45.0
- ID#: 318029

Multiple DDMs rejected during loop recovery

1. **Problem Description:** Device Adapter loop instability can cause failures reading drive capacity information
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.45.0
- ID#: 322533

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PPRC suspend caused by blocked path

1. **Problem Description:** PPRC path blocked because of a microcode logic error. PPRC still attempts to use the blocked path, and the transfers queue until they time out. Affected path(s) must be removed and reestablished to clear the condition
2. **Potential Impact of Problem:** PPRC suspend
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.11.45.0

ID#: 324219

HIPER Small-Extent volume missing extents

1. **Problem Description:** <http://www.ibm.com/support/docview.wss?uid=ssg1S1010480>
2. **Potential Impact of Problem:** Warmstarts, loss of access
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.11.45.0

ID#: 324390

IBM i LUN discovery problem

1. **Problem Description:** IBM i serial number prefix is captured incorrectly if it has a leading zero
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.11.45.0

ID#: 324682

/var filesystem full

1. **Problem Description:** Temporary log jar files are accumulating. Can occur on HMCs or LPARs.
2. **Potential Impact of Problem:** Potential loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.11.45.0

ID#: 324988

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
5. **Release Bundle:** 88.11.32.0

ID#: 315732

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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
 5. **Release Bundle:** 88.11.32.0
- ID#: 315843

ABORT VOL TASKS 2 error on nSeries systems

1. **Problem Description:** Change the DS8K default QERR setting of 01 to 00 for nSeries hosts
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.32.0
- ID#: 317746

Incomplete list of bad sectors

1. **Problem Description:** When processing the list of bad sectors during rank rebuild, the list may be incomplete if it is processed before the rank is back online. Full extent of data loss will be unknown.
 2. **Potential Impact of Problem:** A host scan of the potentially affected volume(s) is required.
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.32.0
- ID#: 319245

Copy Services TCB manager detected a deadlock

1. **Problem Description:** Deadlock caused Cluster reboot. Subsequent deadlock could then cause the partner Cluster to reboot.
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.32.0
- ID#: 319838

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
 5. **Release Bundle:** 88.11.32.0
- ID#: 320238

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Operating LPAR DSI during resume of partner LPAR

1. **Problem Description:** A PCIe failure caused a warmstart during failback, exposing a timing condition that caused Cache Directory Control Block corruption. A second warmstart then hit the corruption, causing DSI.
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.32.0
- ID#: 321939

0xE50 MLEs

1. **Problem Description:** Failed cleanup of Task Control Block for task that was being retried
 2. **Potential Impact of Problem:** Repeated warmstarts
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.32.0
- ID#: 321944

HIPER Global Mirror stops forming consistency groups after volume removal

1. **Problem Description:** <http://www-01.ibm.com/support/docview.wss?uid=ssg1S1009636>
 2. **Potential Impact of Problem:** Global Mirror error
 3. **Problem Severity:** HIPER
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.32.0
- ID#: 322264

LPAR DSI and reboot

1. **Problem Description:** Easy Tier code is able to use up to 1GB of memory for statistic buffers. But ET hard-allocates only 256MB at IML. DSI occurs If statistic buffer utilization exceeds 256MB.
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.32.0
- ID#: 322589

HIPER 0x5526 MLE and dual reboot

1. **Problem Description:** <http://www.ibm.com/support/docview.wss?uid=ssg1S1009285>
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** Yes
 5. **Release Bundle:** 88.11.25.0
- ID#: 320992

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HIPER IOS078I on multiple paths

1. **Problem Description:** A sequential track had 'Invalidate Metadata' flag set, so was skipped during demote scan. But it's timestamp was not changed, so it remained the oldest track.
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** HIPER
 4. **Pervasive Problem:** Yes
 5. **Release Bundle:** 88.11.21.0
- ID#: 319030

Unit check returns invalid SCSI sense data

1. **Problem Description:** Unit check sense data for LRC and Sequence Number errors is all zeros
 2. **Potential Impact of Problem:** May cause unexpected host errors
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.21.0
- ID#: 319253

HIPER 0x1045 MLE

1. **Problem Description:** During a single track stage request, the I/O bounds for a larger dataset were used. This caused cache to stage past the end of a track.
 2. **Potential Impact of Problem:** Warmstart, possible loss of access
 3. **Problem Severity:** HIPER
 4. **Pervasive Problem:** Yes
 5. **Release Bundle:** 88.11.21.0
- ID#: 319628

HIPER CMUN00023E copy services license error

1. **Problem Description:** Error is caused by Software PID configuration missing from manufacturing
 2. **Potential Impact of Problem:** Unable to use copy services functions
 3. **Problem Severity:** HIPER
 4. **Pervasive Problem:** Yes
 5. **Release Bundle:** 88.11.21.0
- ID#: 320054, 320101

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

Inactive Multi-Target incremental out-of-sync tracks do not decrease

1. **Problem Description:** When an inactive MTIR relationship shares a target with an active global copy, the OOS bitmap does not decrease, even if there is no write activity
 2. **Potential Impact of Problem:** Longer sync times
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.45.0
- ID#: 297591

Host reports sense F019 and stalled 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
 5. **Release Bundle:** 88.11.45.0
- ID#:315393

0x7D0E MLE

1. **Problem Description:** XRC tried to release a lock that was not being held, causing a microcode logic error.
 2. **Potential Impact of Problem:** Warmstart
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** Yes
 5. **Release Bundle:** 88.11.45.0
- ID#:316139

No failover to remaining TPC Auth server after one TPC server failed

1. **Problem Description:** Process to authenticate via LDAP became hung after one TPC Authentication server went down.
 2. **Potential Impact of Problem:** Unable to manage DS8K via TPC
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.45.0
- ID#:317761

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0x1C92 MLE

1. **Problem Description:** Device Adapter completion polling hit a DA spinlock timeout, which resulted in a Microcode Logic Error.
 2. **Potential Impact of Problem:** Warmstart
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.45.0
- ID#:320420

0x4B05 MLE

1. **Problem Description:** zHPF write I/O with > 55 records in a track is split into two DMAs. An error during the first DMA exposed a microcode logic error when attempting to process the second DMA.
 2. **Potential Impact of Problem:** Warmstart
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.45.0
- ID#:320670

DDM media errors caused performance impact

1. **Problem Description:** Fix lowers correctable media error thresholds
 2. **Potential Impact of Problem:** degraded performance
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.45.0
- ID#:321413

0x01B7 MLE

1. **Problem Description:** When creating consistency groups, the functions to post long busy, and state change interrupt are synchronous functions that may exceed 1mS per device
 2. **Potential Impact of Problem:** Warmstart
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.45.0
- ID#:323455

0x1159 MLE, data pinned in cache

1. **Problem Description:** Read command was modified to become a write command, but DA did not allocate an extent to destage the write data.
 2. **Potential Impact of Problem:** Warmstart, pinned write data.
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** Yes
 5. **Release Bundle:** 88.11.45.0
- ID#:324675

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Performance degraded on workloads dependent on hw reserves

1. **Problem Description:** Hardware device reserve processing may delay allowing a disconnected device to reconnect
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.11.45.0
ID#: 324961

Poor performance on IBM i host

1. **Problem Description:** Improperly initialized fields may return incorrect data to a mode_sense command, causing frequent mode_select commands to be issued
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.11.45.0
ID#:325871

Very high sequential workloads affect random performance

1. **Problem Description:** With very high sequential workloads, cache hit ratios can decline for random workloads. Fix provides an optional persistent pokeable to increase retention of random workload tracks in cache.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.11.32.0
ID#: 317717

Unable to remove FlashCopy relationship

1. **Problem Description:** A volume with format in process was interrupted by an unrelated warmstart. After the warmstart, the format was still in process, but did not actually resume.
2. **Potential Impact of Problem:** Unable to remove FLC relationship
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.11.32.0
ID#: 318448

0x740D MLE

1. **Problem Description:** Global Mirror write thread encountered an invalid device ID because of a microcode logic error.
2. **Potential Impact of Problem:** Warmstarts
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.11.32.0
ID#: 318952

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0x01B7 MLE

1. **Problem Description:** Copy services lock is taking > 180mS to clear.
Function change to use OS locking instead.
 2. **Potential Impact of Problem:** Warmstart
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.32.0
- ID#: 319929

zLinux path errors during CDA

1. **Problem Description:** zLinux does not support the default QERR setting in DS8K, for fibre channel SCSI events. Fix maps zLinux to the 'nSeries' initiator type, which provides the correct QERR behavior.
 2. **Potential Impact of Problem:** loss of path
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.32.0
- ID#: 320116

I/O timeouts, performance degradation

1. **Problem Description:** In systems with many small-extent ESE volumes, locking contention between I/O workload and Easy Tier processes may cause periods of performance degradation.
 2. **Potential Impact of Problem:** degraded performance
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.32.0
- ID#: 322228

0x4433 MLE with zHPF and DB2 castout accelerator

1. **Problem Description:** In systems running XRC or Concurrent Copy, a timing window exists in multi-domain zHPF write chains with DB2 Castout Accelerator, where the prior domain is reflected in a portion of the command control structures rather than the current domain.
 2. **Potential Impact of Problem:** Warmstart
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.32.0
- ID#: 322348

Performance impact during Flash Card firmware update

1. **Problem Description:** Flash Card failed while downloading firmware, causing command timeouts. This impacted Flashcopy synchronous destage.
 2. **Potential Impact of Problem:** degraded performance, warmstart
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.21.0
- ID#: 318889

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Repeated 0x01B7-506A MLE

1. **Problem Description:** Copy services lock contention timeout on a lock that did not need to be active.
 2. **Potential Impact of Problem:** Warmstart
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** Yes
 5. **Release Bundle:** 88.11.21.0
- ID#: 319267

Service: A recoverable error, Service improvements.

Unable to resume LPAR after CDA suspend

1. **Problem Description:** CDA suspended because of a procedural problem, but once the issue was found and corrected, multiple recovery actions were queued, and had to be manually cleared.
 2. **Potential Impact of Problem:** Extended service action
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.45.0
- ID#: 315378

Frequent SNMP Trap202

1. **Problem Description:** SNMP reporting large numbers of PPRC Freeze and Pause With Consistency events.
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.45.0
- ID#: 316458

Periodic Key Retrieval timeout

1. **Problem Description:** Key retrieval timeout can occur if PKR runs within the first ~20 seconds after a warmstart
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.45.0
- ID#: 317359

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No serviceable event generated for DDM failure

1. **Problem Description:** DDM was rejected by DAHP while in the process of being spared out using smart rebuild.
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.45.0
- ID#: 319400

Unable to remove key server using DS GUI

1. **Problem Description:** DS GUI did not allow removal of a key server definition when only two are defined
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.45.0
- ID#: 321108

CMUN00015E command execution timeout

1. **Problem Description:** DSCLI 'lshostconnect -l' command timeout with large numbers of host connections. Fix implements a faster query method.
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.45.0
- ID#: 321112

Storage Enclosure install failure

1. **Problem Description:** Storage enclosure install in Rack 3 failed because of errors in a plugOrder file
 2. **Potential Impact of Problem:** Extended service action
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.45.0
- ID#: 321251

Some SRC=BE14EAFx events do not auto-close

1. **Problem Description:** Serviceable events for Key Server connection problems should auto-close when the connection is restored.
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.45.0
- ID#: 321483

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Array and Rank creation slow or may time out

- 1. Problem Description:** Problem caused by internal server hard drive contention with a data scrubbing process.
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
 - 5. Release Bundle:** 88.11.45.0
- ID#: 321536

Host map still exists after volume deletion

- 1. Problem Description:** After deleting a logical volume, the volume host mapping persists.
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
 - 5. Release Bundle:** 88.11.45.0
- ID#: 322093

Invalid heat map data from ESS01

- 1. Problem Description:** EasyTier produces invalid heat map data for LPAR ESS01, if extent 0 of LUN 0 is performing I/O
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
 - 5. Release Bundle:** 88.11.45.0
- ID#: 322390

No SNMP alert after system firehose dump shutdown

- 1. Problem Description:** Check for power mode was done before HMC had established communication to the system.
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
 - 5. Release Bundle:** 88.11.45.0
- ID#: 322408

Secure Data Overwrite false pre-check failure

- 1. Problem Description:** Drives were in a good state for SDO, but failed pre-check because a service state flag was not reset.
 - 2. Potential Impact of Problem:** Extended SDO duration
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
 - 5. Release Bundle:** 88.11.45.0
- ID#: 322705

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I/O bay MES install failure

1. **Problem Description:** I/O bay install of bays 1B1 and 1B2 were incorrectly flagged as invalid locations.
2. **Potential Impact of Problem:** Extended service action
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.11.45.0
ID#: 323178

False V-RAID adapter fan errors

1. **Problem Description:** Increase error thresholds to reduce serviceable events for false fan errors.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.11.45.0
ID#: 323259

PE Package offload via DSCLI returns false error

1. **Problem Description:** PE package offload can return a false failure if HMC has FTP offload enabled.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.11.45.0
ID#: 323306

Incorrect translation in DS GUI

1. **Problem Description:** DS GUI incorrectly translates "KIOPS" for French language implementations.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.11.45.0
ID#: 323848

Change Assist OnSite Access Control List group

1. **Problem Description:** Change to allow only the single AOS ACL group IBM/BLUE/GTS/EMEA/STORAGE/DS8000 for EMEA systems.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.11.45.0
ID#: 324050

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SRC=BE14EAF1 does not auto-close

1. **Problem Description:** HMC Key Manager communication errors should auto-close when communication is restored.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.11.45.0
ID#: 324091

Security scan flags SLPd service active

1. **Problem Description:** Service Location Protocol service was left active when CIM Agent was not running
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.11.45.0
ID#: 324342

RSC terminated with broken pipe

1. **Problem Description:** Remote Support Console missed connected message because it was mixed with other unexpected data
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.11.45.0
ID#: 324800

Unable to offload DC-UPS internal data when DC-UPS is fenced

1. **Problem Description:** Unable to retrieve internal debug data. Fix will offload the data prior to fencing the DC-UPS
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.11.32.0
ID#: 291926

Secure Data Overwrite failure

1. **Problem Description:** No completion certificate generated if overwrite process fails on HMC Hard drive.
2. **Potential Impact of Problem:** Extended SDO process
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.11.32.0
ID#: 307647

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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
 5. **Release Bundle:** 88.11.32.0
- ID#: 314354

Firefox requests profile update

1. **Problem Description:** When HMC WUI has not been running for an extended period, Firefox requests a profile update at the next startup. Updating the profile will cause WUI failure, and can require HMC reload to recover.
 2. **Potential Impact of Problem:** HMC WUI failure
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.32.0
- ID#: 317433

Update Assist OnSite fixpack

1. **Problem Description:** AOS fixpack resolves certain types of connection failures.
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.32.0
- ID#: 317789

Incorrect logging of 16Gb HA link counters

1. **Problem Description:** Host Adapter ports logging incorrect send_buffer_zero counts because of a microcode logic error.
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.32.0
- ID#: 317802

Improve remapping of host port definitions

1. **Problem Description:** Version of DS GUI introduced in r7.4 requires a one-time remap of open system host port definitions. Fix provides an improved method to perform this task.
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** Yes
 5. **Release Bundle:** 88.11.32.0
- ID#: 317950

IBM System Storage - DS8880 Disk Storage

88.10.x.x Release Notes Cumulative Summary v4.1

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
5. **Release Bundle:** 88.11.32.0
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
5. **Release Bundle:** 88.11.32.0
ID#: 318506

Copy Services enablement missing on LPARs

1. **Problem Description:** Manufacturing process missed a Software PID enablement check
2. **Potential Impact of Problem:** CMUN00023E error
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.11.32.0
ID#: 318772

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
5. **Release Bundle:** 88.11.32.0
ID#: 319404

Serviceable event location code label incorrect

1. **Problem Description:** Location code incorrectly labeled "serial number"
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.11.32.0
ID#: 319787

IBM System Storage - DS8880 Disk Storage

88.10.x.x Release Notes Cumulative Summary v4.1

Excessive "VOLSER changed" messages

1. **Problem Description:** GUI is polling for VOLSER changes, but is logging even when the VOLSER did not change.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.11.32.0
ID#: 319969

VRAID adapter serial numbers not updated

1. **Problem Description:** During VRAID adapter repair, enclosure serial number and firmware level are not updated in the new adapter.
2. **Potential Impact of Problem:** Manual update required
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.11.32.0
ID#: 320106

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
5. **Release Bundle:** 88.11.32.0
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
5. **Release Bundle:** 88.11.32.0
ID#: 320767

SRC=BE9C22A5 during code update

1. **Problem Description:** Dual HMC environment may not properly track ICS images that need to be reinstalled during the code update process.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.11.32.0
ID#: 321040

IBM System Storage - DS8880 Disk Storage

88.10.x.x Release Notes Cumulative Summary v4.1

VRAID adapter fan failure

1. **Problem Description:** Threshold for fan failures is too low, resulting in difficulty differentiating between false triggers and real failures.
 2. **Potential Impact of Problem:** Unnecessary service actions
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.32.0
- ID#: 321813

DDM firmware update did not complete

1. **Problem Description:** During firmware update, drives may temporarily report a 'no detect' return code, causing the process to abort for the adapter pair. Fix will retry the operation.
 2. **Potential Impact of Problem:** DDMs left on older firmware
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.32.0
- ID#: 322343

DS GUI 'Create Pool' screen cut off in Firefox

1. **Problem Description:** Text at the bottom of the screen is cut off. The screen is scrollable, but there is no scroll bar.
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.21.0
- ID#: 317995

FRU list incorrect for SRC=BE197073

1. **Problem Description:** Symbolic procedure calls RPC C2 port T206, should be port T205.
 2. **Potential Impact of Problem:** Extended service action
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.21.0
- ID#: 318575

Unable to resume LPAR after repair

1. **Problem Description:** LPAR failed during CDA. After repair, LPAR would not resume to dual.
 2. **Potential Impact of Problem:** Extended service window
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.21.0
- ID#: 318602

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88.10.x.x Release Notes Cumulative Summary v4.1

DS GUI does not display the server diagram

1. **Problem Description:** DS GUI null pointer exception while querying hardware in one or more I/O bays that contain no Host or Device Adapters
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.21.0
- ID#: 319281

SRC=BE190009 displays incorrect text

1. **Problem Description:** HMC text description does not use same terminology as Knowledge Center.
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.21.0
- ID#: 319337

False SRC=BE340006 Cabling error detected

1. **Problem Description:** Plug order lists for Rack 5 enclosures G18 and below.
 2. **Potential Impact of Problem:** Extended service action
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.21.0
- ID#: 319820

Improvements: Improvements for better usability

Collect PE package from both HMCs

1. **Problem Description:** In dual-HMC systems, PE package collection on one HMC will automatically collect data from both HMCs
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Improvement
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.21.0
- ID#: 319477

Update AOS to latest 4.0.1

1. **Problem Description:** Assist OnSite maintenance release
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Improvement
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 88.11.21.0
- ID#: 320543

IBM System Storage - DS8880 Disk Storage

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'Delete pool with Volumes' function

- 1. Problem Description:** Enable DS GUI function to delete a segment pool, and it's associated volumes, if they exist.
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Improvement
 - 4. Pervasive Problem:** No
 - 5. Release Bundle:** 88.11.21.0
- ID#: 320927

Export CSV for "Volumes by LSS" function

- 1. Problem Description:** Add function in DS GUI to export volumes by LSS data to CSV file
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Improvement
 - 4. Pervasive Problem:** No
 - 5. Release Bundle:** 88.11.21.0
- ID#: 320935

Show volume GUID in DS GUI

- 1. Problem Description:** Show GUID in volume properties dialog and exported summary.
 - 2. Potential Impact of Problem:** none
 - 3. Problem Severity:** Improvement
 - 4. Pervasive Problem:** No
 - 5. Release Bundle:** 88.11.32.0
- ID#:320507

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