IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Date: April 5, 2024

VRMF Level Data Results:

VRMF level From:	**88.50.176**
VRMF Level To:	**88.59.51.0**
Report for:	**All DS8880**

Code Bundle Contents

DS8880 Code Bundle Level	SEA or LMC Version:	DSCLI Client	Heat Map Transfer Utility	Storage Manager	Copy Services Manager
88.59.51.0	7.8.59.239	7.8.59.215	7.8.59.215	5.8.59.1089	6.3.2
88.59.49.0	7.8.59.215	7.8.59.215	7.8.59.215	5.8.59.1087	6.3.2
88.59.42.0	7.8.59.158	7.8.59.158	7.8.59.158	5.8.59.1066	6.3.2
88.59.36.0	7.8.59.121	7.8.59.121	7.8.59.121	5.8.59.1056	6.3.2
88.59.28.0	7.8.59.88	7.8.59.64	7.8.59.64	5.8.59.1034	6.3.0
88.59.21.0	7.8.59.68	7.8.59.64	7.8.59.64	5.8.59.1025	6.3.0
88.59.19.0	7.8.59.64	7.8.59.64	7.8.59.64	5.8.59.1023	6.3.0
88.59.12.0	7.8.59.42	7.8.59.22	7.8.59.22	5.8.59.1015	6.2.12
88.59.8.0	7.8.59.22	7.8.59.22	7.8.59.22	5.8.59.1010	6.2.12
88.58.3.0	7.8.58.11	7.8.58.11	7.8.58.11	5.8.58.1004	6.2.10
88.57.8.0	7.8.57.18	7.8.57.18	7.8.57.18	5.8.57.1008	6.2.9.1
88.56.9.0	7.8.56.30	7.8.56.30	7.8.56.30	5.8.56.1010	6.2.8
88.55.9.2	7.8.55.24	7.8.55.22	7.8.55.22	5.8.55.1010	6.2.7
88.55.9.1	7.8.55.23	7.8.55.22	7.8.55.22	5.8.55.1010	6.2.7
88.55.9.0	7.8.55.22	7.8.55.22	7.8.55.22	5.8.55.1010	6.2.7
88.54.37.0	7.8.54.91	7.8.54.77	7.8.54.77	5.8.54.1041	6.2.6
88.54.31.0	7.8.54.77	7.8.54.77	7.8.54.77	5.8.54.1035	6.2.6
88.53.15.0	7.8.53.45	7.8.53.35	7.8.53.35	5.8.53.1020	6.2.6
88.53.5.0	7.8.53.19	7.8.53.19	7.8.53.19	5.8.53.1007	6.2.4
88.52.23.1	7.8.52.77	7.8.52.76	7.8.52.76	5.8.52.1031	6.2.4
88.52.23.0	7.8.52.76	7.8.52.76	7.8.52.76	5.8.52.1031	6.2.4
88.52.21.0	7.8.52.70	7.8.52.70	7.8.52.70	5.8.52.1029	6.2.4
88.51.53.0	7.8.51.159	7.8.51.159	7.8.51.159	5.8.51.1060	6.2.4
88.51.49.0	7.8.51.148	7.8.51.148	7.8.51.148	5.8.51.1055	6.2.3
88.50.184.0	7.8.50.497	7.8.50.497	7.8.50.497	5.8.50.1230	6.2.3
88.50.176.0	7.8.50.482	7.8.50.482	7.8.50.482	5.8.50.1222	6.2.2.1

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

This is a summary of the fixes in the R8.5 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: Irrecoverable error with potential loss of data. - Serious: Irrecoverable error with potential loss of access to data, or critical function.
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

Acute: An irrecoverable error with potential loss of data.

HIPER Potential undetected loss of DS8000 Safeguarded Copy source volume data during an LPAR error handling event.
1. **Problem Description:** https://www.ibm.com/support/pages/node/7129800
2. **Potential Impact of Problem:** Loss of data
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.51.0
ID# 363337

HIPER Potential undetected loss of DS8000 CKD Remote Pair Flashcopy Target data during an LPAR error handling event.
1. **Problem Description:** https://www.ibm.com/support/pages/node/7145622
2. **Potential Impact of Problem:** Loss of data
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.51.0
ID# 365221

SRC=BE33CEE1 - Bad LRC detected during daily scan
1. **Problem Description:** Bad LRC detected on PAV alias volume caused by insufficient locking protection during a narrow window in volume creation.
2. **Potential Impact of Problem:** Loss of data
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.42.0
ID# 358450

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Inconsistent data may exist on SafeGuarded Copy recovery volume(s)
1. **Problem Description:** https://www.ibm.com/support/pages/node/6573169
2. **Potential Impact of Problem:** loss of data
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.36.0
ID# 357988

TCT migration to cloud may fail silently
1. **Problem Description:** Cloud migration over a degraded network connection, may expose a timing window where the object was not migrated, but the operation completed with good status.
2. **Potential Impact of Problem:** loss of data
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.28.0, 88.59.36.0
ID# 356928

HIPER Timeouts and drive failures on Flash Drives with low usage
1. **Problem Description:** Certain specific Flash Drive models are exposed to conditions that may lead to a permanent read error when accessing data.
   https://www.ibm.com/support/pages/node/6414097
2. **Potential Impact of Problem:** loss of data
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0
ID# 352345

SafeGuarded Copy volume stuck in Rolloff state
1. **Problem Description:** After an error recovery event during SGC Rolloff, SGC consistency group formation fails with "try later" sense.
2. **Potential Impact of Problem:** Loss of SafeGuarded Copy
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0
ID# 353027

HIPER Inconsistent SafeGuarded Backup data
1. **Problem Description:** https://www.ibm.com/support/pages/node/6368715
2. **Potential Impact of Problem:** Data inconsistency
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.57.8.0
ID# 349398

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Pinned data after power loss
1. **Problem Description:** During IML with modified data, an exposure exists where a previously queued commit may not be restored to cache.
2. **Potential Impact of Problem:** loss of data
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.57.8.0
ID# 350519

0x10F7 MLE during array rebuild
1. **Problem Description:** During array rebuild, track recovery was unable to completely restore an unreadable track from the copy in cache.
2. **Potential Impact of Problem:** loss of data
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0
ID# 346492

Inconsistent data on secondary after error recovery
1. **Problem Description:** Error recovery while forming PPRC Consistency Groups, across multiple LSSs, may result in one or more LSSs coming out of freeze earlier than the others.
2. **Potential Impact of Problem:** Data inconsistency
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0
ID# 348783

Pinned non-retryable data in cache after cluster failover
1. **Problem Description:** During failover, a narrow window exists where a task control block for a format write operation was not processed.
2. **Potential Impact of Problem:** loss of data
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0
ID# 348842

Inconsistent data on secondary after error recovery
1. **Problem Description:** Error recovery while forming PPRC Consistency Groups, across multiple LSSs, may result in one or more LSSs coming out of freeze earlier than the others.
2. **Potential Impact of Problem:** Data inconsistency
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.1
ID# 348783

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Incorrect volume LRC
1. **Problem Description:** During base and alias volume creation, insufficient locking may lead to incorrect LRC calculation.
2. **Potential Impact of Problem:** loss of data
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 344090

Inconsistent data on secondary after error recovery
1. **Problem Description:** Error recovery while forming FlashCopy Consistency Groups, across multiple LSSs, may result in one or more LSSs coming out of freeze earlier than the others.
   Note: Complete fix will require Co-Req APARs OA59936 (SDM) and PH26701 (GDPS)
2. **Potential Impact of Problem:** Data inconsistency
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 347624

Potential data inconsistency after failover
1. **Problem Description:** IBM i systems may encounter inconsistent data when skip writes are interrupted by cluster hardware failover.
2. **Potential Impact of Problem:** loss of data
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 348193

Data miscompare on SafeGuarded Copy recovery volume
1. **Problem Description:** Track Bitmap and Recovery Bitmap were out of sync during a host write to the recovery volume. This caused inconsistent data on the recovery volume, making it unusable.
2. **Potential Impact of Problem:** Data miscompare
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.37.0
ID# 346873

HIPER Possible data inconsistency on PPRC secondary
1. **Problem Description:** Possible data inconsistency on PPRC secondary (or GM FlashCopy target as current instance) while running FlashCopy on PPRC ESE primary (PPRC primary is also FLC target)
2. **Potential Impact of Problem:** loss of data
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.52.21.0, 88.53.5.0
ID# 341639

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Potential incomplete FlashCopy
1. **Problem Description:** In zOS systems running with Extent-Space-Efficient volumes, a FlashCopy that is established while PPRC is suspended, may not copy all updated tracks when PPRC is resumed.
2. **Potential Impact of Problem:** loss of data
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.52.23.0
ID# 342079

SRC=BE504940 on Flash Copy target volume
1. **Problem Description:** While performing Copy Source to Target operation, a microcode error during host bay PCIe fabric recovery, resulted in a cache medium error.
2. **Potential Impact of Problem:** loss of data
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 333246

Registered State Change Notification with incorrect Device ID
1. **Problem Description:** During LSS creation or deletion, host adapter may send RSCN prematurely, before the Device ID has been correctly set.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 335015

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

zOS HyperSwap failure
1. **Problem Description:** An unusual channel configuration resulted in excessive asynchronous status events and channel aborts during HyperSwap.
2. **Potential Impact of Problem:** Loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.49.0
ID# 358897

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

PPRC path unusable
1. **Problem Description:** When a PPRC path is in High Failure Rate status, test I/Os are sent to the secondary to evaluate if the condition still exists. A microcode issue may cause a resource leak during this process, that can cause the Host Adapter port to become unusable.
2. **Potential Impact of Problem:** PPRC path unusable
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.49.0
ID# 360287

PPRC volumes stuck in duplex pending
1. **Problem Description:** When converting a PPRC pair from Global Copy to Metro Mirror, queued zHyperLink write chains that could not be processed, were not cleared.
2. **Potential Impact of Problem:** PPRC failure
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.49.0
ID# 360292

Volumes stuck in long busy state
1. **Problem Description:** A Flash drive failed in an unusual way, exposing an issue in a rarely used code path, that failed to send state change notifications, leaving multiple volumes in extended long busy state
2. **Potential Impact of Problem:** Loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.49.0
ID# 360793

Copy Services Manager query received an empty list
1. **Problem Description:** When ESSNI is down on an LPAR, copy services queries may return incorrect results to the client, instead of returning an error.
2. **Potential Impact of Problem:** Unable to manage copy services
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.49.0
ID# 360865

Loss of Access during code upgrade
1. **Problem Description:** Host adapter topology changes made while CDA preload was active, were lost during code activation.
2. **Potential Impact of Problem:** Loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.42.0
ID# 357979

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

HIPER Temporary loss of access with an unusual workload pattern.

1. **Problem Description:** Workloads with a small number of tracks in NVS, but very high update write activity to those same tracks, may lead to a destage stall condition.
2. **Potential Impact of Problem:** Loss of access
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.59.42.0

ID# 358142

MTIR relations missing after a region swap-back

1. **Problem Description:** MultiTarget Incremental Resync relationships could not be created because there were no free primary relationship entries. Original Relation IDs still existed in the control structures, but were not reused.
2. **Potential Impact of Problem:** Unexpected full copy. Loss of Copy Services function.
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.42.0

ID# 358170

Repeated 0x7410 MLE and dual reboot during TCT recall or restore

1. **Problem Description:** Transparent Cloud Tiering recall or restore of datasets from TS7700, to volumes in a PPRC relationship, may encounter repeated warmstarts, leading to dual-cluster IML.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.28.0, 88.59.36.0

ID# 357237

MTIR relations missing after a region swap-back

1. **Problem Description:** MultiTarget Incremental Resync relationships could not be created because there were no free primary relationship entries. Original Relation IDs still existed in the control structures, but were not reused.
2. **Potential Impact of Problem:** Loss of Copy Services function
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.19.0

ID# 354951

Repeated 0x7002 MLEs and dual-cluster reboots

1. **Problem Description:** A MultiTarget FlashCopy operation encountered an out-of-space condition on one of the targets, but an incorrect return code was generated.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.19.0

ID# 355247

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Multiple 0x4809 Host Adapter MLEs
1. **Problem Description:** Unexpected zHPF command chain triggered multiple microcode logic errors and loss of access, because the commands were allowed to keep retrying.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.19.0
ID# 355867

Failing V-RAID adapter led to loss of access
1. **Problem Description:** V-RAID adapter was still functional but sending Unit Check sense, that should have caused the adapter to be fenced.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.19.0
ID# 356136

Performance impact during SafeGuarded recover operation
1. **Problem Description:** During recover, SGG needs to search all backups that precede the recovery point, to find each track of interest. Each search thread may take up to 10mS, which may starve other processes. It also can prevent ODD dump scanloop quiesce from completing within the allowed 8mS, leading to one or both LPARs failing to collect dumps. Fix provides a persistent poke to reduce maximum thread duration to 5mS.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.19.0
ID# 356210

PCIe errors and dual reboot on DS8882F model 983
1. **Problem Description:** First-Time Data Capture fix released in 88.59.8.0 contains an incompatibility with the unique I/O enclosures used in the modular 983 systems.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.12.0
ID# 355949

Multiple path failure on Linux hosts during error recovery
1. **Problem Description:** For Linux hosts, change the default Queue Error Management parameter to binary '00', to allow other commands in the task set to be processed after a check condition.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0
ID# 346755

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Loss of access caused by extended PCIe error recovery

1. **Problem Description:** CPC PCIe adapter hardware failure caused LPAR failover, and extended I/O enclosure PCIe recovery.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0

ID# 352893

Repeated track ID mismatch, 0x4433 MLE, and Host Adapter fence

1. **Problem Description:** An unusual CKD command chain exposed a microcode logic error in Host Adapter code.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0

ID# 353928

Removing volumes from an active XRC session may cause both clusters to reboot.

1. **Problem Description:** https://www.ibm.com/support/pages/node/6439821
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0

ID# 350819

0x1024 MLE and dual reboot

1. **Problem Description:** When expanding a large extents volume that does not end on an extent boundary, and had been migrated from a different geometry, the first and last track information for the last extent may be mis-calculated.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0

ID# 349898

Incorrect IEA497I message issued

1. **Problem Description:** An Invalid Track Format error was mis-reported as invalid Device Control Word error.
2. **Potential Impact of Problem:** Unplanned HyperSwap
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0

ID# 351060

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Pinned data after a power failure
1. **Problem Description:** Safe Data modified time was mis-calculated such that it was a negative value relative to Safe Data start time. This caused the pinned tracks to be left in NVS.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0

ID# 351363

MGM session would not start after site swap
1. **Problem Description:** Metro-Global-Mirror start H1-H2-H3 failed because of incorrect Out-of-Sync track bitmaps.
2. **Potential Impact of Problem:** Replication failure
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0

ID# 351900

Last Device Adapter fenced
1. **Problem Description:** A microcode logic error during adapter recovery caused the only available adapter to be fenced.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.57.8.0

ID# 341982

I/O adapter failure caused multiple warmstarts
1. **Problem Description:** PCIe error recovery did not recognize that the adapter was presenting power fault
2. **Potential Impact of Problem:** Multiple warmstarts
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.57.8.0

ID# 345611

TCT Recall fails with Invalid Track Number
1. **Problem Description:** Transparent Cloud Tiering Recall task that spans multiple volumes may fail because a microcode logic error handling parallel recall threads.
2. **Potential Impact of Problem:** Recall job failure
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.57.8.0

ID# 350598

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Transparent Cloud Tiering failure
1. **Problem Description:** After update to a newer DS8880 code bundle, TCT failed because of new cipher restrictions in Java.
2. **Potential Impact of Problem:** loss of access to cloud data
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.57.8.0

ID# 350740

REST API failure after code bundle update
1. **Problem Description:** In systems running with an alternate internal IP address range, REST API requires manual intervention to restore Transparent Cloud Tiering function after code bundle update.
2. **Potential Impact of Problem:** loss of access to cloud data
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.57.8.0

ID# 350876

0x014E MLE during failback
1. **Problem Description:** Cluster failback could not complete because it could not access metadata on a quiesced rank.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.57.8.0

ID# 351315

Loss of access exposure running ESE Sizing Tool
1. **Problem Description:** If an LPAR is running the ESE Sizing Tool, and has a failure, the partner LPAR would be unable to take over, and would also fail. Once the system is recovered, copy services relations would have to be reconfigured. Exposure was discovered in code review.
2. **Potential Impact of Problem:** loss of access, loss of replication
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.57.8.0

ID# 351682

Repeated warmstarts and LPAR reboot
1. **Problem Description:** Device Adapter MLE processing invalid failed track logs led to repeated warmstarts, and reboot of both clusters.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0

ID# 349270

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

0x0632 MLE and cluster failover

1. **Problem Description:** A microcode logic error was encountered while converting a Global Copy primary relation with change recording, to MetroMirror and start Incremental Resync.
2. **Potential Impact of Problem:** Warmstarts, cluster failover, Possible loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0

ID# 349654

Potential Loss of Access using DB2 System Backup Restore utility with Preserve Mirror

1. **Problem Description:** https://www.ibm.com/support/pages/node/6253915
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0

ID# 350053

HIPER HyperSwap may fail in Cascaded Metro Global Mirror managed by CSM

1. **Problem Description:** https://www.ibm.com/support/pages/node/6259481
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0

ID# 350674

HIPER SRC=BE352662 Host Adapter zHPF Global CRC error

1. **Problem Description:** An unusual zHPF chain led to CRC errors, and fencing of multiple Host Adapters.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.55.9.0

ID# 345019

0x01B7:801A MLE

1. **Problem Description:** Summary Event Notification processing is using inefficient iterative methods, contributing to thread timeouts.
2. **Potential Impact of Problem:** ODD Dump, Warmstart, Failover, or HyperSwap Failure
3. **Problem Severity:** Varies depending on workload.
4. **Pervasive Problem:** Yes – Odd Dump
5. **Release Bundle:** 88.55.9.0

ID# 345941

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

SRC=BE1E218D Fixed block microcode timeout
1. **Problem Description:** SafeGuarded Copy ran into an out-of-space condition, but older backups were not rolled off.
2. **Potential Impact of Problem:** Temporary loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 346455

VRAID adapter left in service mode
1. **Problem Description:** After a pseudo-repair of a VRAID adapter, the adapter was left in service mode. Subsequent repair of the partner adapter was allowed to proceed, causing loss of access.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 346737

SafeGuarded Copy filling up extent pools
1. **Problem Description:** SGC was filling up pools faster than older backups were being removed. Fix provides a pokeable setting to fail the SGC relation if the pools are filling up, to avoid failing host I/O.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 347244

Repeated 0x0109 MLEs running Concurrent Copy
1. **Problem Description:** 0x7D0E ODD Dump failed to clear a lock, leading to multiple 0x0109 MLEs and repeated warmstarts.
2. **Potential Impact of Problem:** Repeated warmstarts, single cluster reboot
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 347490

HIPER Start Secondary fails with MTIR
1. **Problem Description:** Unintentional Multi-Target Incremental Resync pairs can be created that point to themselves. Can cause HyperSwap failure in GDPS environments. Removal of these pair relations requires warmstart.
2. **Potential Impact of Problem:** HyperSwap failure
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.53.15.0, 88.54.37.0
ID# 345590

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

HIPER Unable to IPL from SafeGuarded Copy recovery volume

1. **Problem Description:** When using a Task Control Block with two Cache Track Requests to access a track on the recovery volume, the second access may discarded.
2. **Potential Impact of Problem:** IPL failure
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.54.37.0

ID# 346511

Extended long busy while terminating Global Copy pair

1. **Problem Description:** A command timeout during termination of a PPRC pair may cause extended long busy on the primary volume.
2. **Potential Impact of Problem:** Temporary loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0

ID# 328201

Repeated 0x0164 MLE

1. **Problem Description:** Removal of a PPRC secondary volume or LSS while PPRC is still active may cause repeated microcode logic errors.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0

ID# 341295

Incorrect drive allocation in RAID-10 arrays

1. **Problem Description:** Error conditions while creating arrays caused both primary and secondary drives to be on the same loop, creating a single point of failure
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0

ID# 341427

Failing PPRC links led to loss of access

1. **Problem Description:** Repeated PPRC link recovery with large numbers of relationships can lead to an Out of Task Control Blocks condition on the primary system.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0

ID# 341443

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Metro Mirror suspend
1. **Problem Description:** Suspend after Metro Mirror secondary returned long busy during a write operation. This may lead to production impact in Geographically-Dispersed Parallel Sysplex environments.
2. **Potential Impact of Problem:** GDPS freeze
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 341724

VRAID timeout during RAID-6 rebuild
1. **Problem Description:** A faulty cable caused excessive delay on flash drive access during array rebuild.
2. **Potential Impact of Problem:** Temporary loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 343909

SRC=BE340111 surfaced by health check
1. **Problem Description:** HPFE Gen2 enclosure mis-cable was undetected at install time
2. **Potential Impact of Problem:** Non-concurrent repair to correct cabling
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 344497

Equipment check on SafeGuarded Copy primary
1. **Problem Description:** SafeGuarded Copy extent pool full condition caused equipment check on source device
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 344066

HIPER Global Mirror full copy after Hyperswap
1. **Problem Description:** During Hyperswap, volumes with no I/O may not correctly reflect their current state, resulting in full volume copy instead of only the changed tracks.
2. **Potential Impact of Problem:** Unnecessary copy activity
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.53.5.0
ID# 340629

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Task Control Block resource leak

1. **Problem Description:** During FlashCopy establish to ESE target, with preallocate on target, if establish is not successful, the task control block may not be freed.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.53.5.0

ID# 341218

Volume not available after Hyperswap

1. **Problem Description:** A microcode logic error may result in a volume stuck in reserved state with no owning host.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.53.5.0

ID# 341617

HIPER 'Address Specific' bit incorrectly set

1. **Problem Description:** When sending link reject for a command received on a logical path that doesn't exist, Host Adapter did not correctly set the AS (address specific) bit.
2. **Potential Impact of Problem:** loss of access, unable to resync after Hyperswap
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.53.5.0

ID# 342058

Potential incomplete FlashCopy

1. **Problem Description:** In zOS systems running with Extent-Space-Efficient volumes, a FlashCopy that is established while PPRC is suspended, may not copy all updated tracks when PPRC is resumed.
2. **Potential Impact of Problem:** loss of data
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.53.5.0

ID# 342079

Repeated 0x4143 MLE

1. **Problem Description:** Mid-chain Locate Record / Erase commands sent by System Data Mover exposed a microcode logic error.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.53.5.0

ID# 342604

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Repeated 0x4422 MLEs
1. **Problem Description:** An unusual (but legal) sequence of Format Write/Locate Record Erase commands can trigger repeated warmstarts that may escalate to cluster failover and loss of access.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.52.21.0
ID# 340203

HIPER Loss of access during LPAR quiesce
1. **Problem Description**: In systems with "6 PCIe port" I/O bay hardware, if zHyperLink is not installed, a PCIe link to an internal switch may be down. During LPAR quiesce, multiple of these unused links could trigger PCIe fabric errors, that may lead to a loss of access.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.52.21.0
ID# 340395

0x014E MLE and LPAR reboot during CDA to R8.5
1. **Problem Description:** A hardware problem during Code Distribution and Activation from R8.4 or earlier levels, to R8.5, may result in a loss of access.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.52.21.0
ID# 340535

HIPER Multiple 0x0109 MLEs and LPAR failover
1. **Problem Description:** Adding Flash storage capacity or replacing Flash Drives, may cause multiple Microcode Logic Errors and LPAR failover in systems running 88.51.49.0 code bundle.
2. **Potential Impact of Problem:** Temporary loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.53.0
ID# 340309, 341973

0x014E MLE and LPAR reboot during CDA to R8.5
1. **Problem Description:** A hardware problem during Code Distribution and Activation from R8.4 or earlier levels, to R8.5, may result in a loss of access.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.53.0
ID# 340535

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

HPFE Gen2 enclosure boot failure
1. **Problem Description:** Enclosure SAS interface card would not boot because it could not read both redundant copies of the enclosure midplane VPD.
2. **Potential Impact of Problem:** loss of access, nonconcurrent repair
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 337649

Multiple HA MLE during failback
1. **Problem Description:** Failback phase exceeded the Host Adapter timeout value, causing microcode logic errors on multiple adapters.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 337972

HPFE Gen2 enclosure hang
1. **Problem Description:** Multiple SAS error recovery actions exposed a microcode logic error that blocked access to the enclosure.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 338141

During LPAR IML, operational LPAR rebooted
1. **Problem Description:** During single LPAR IML, a latent Rack Power Control hardware error led to reboot of the operational LPAR.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 338282

HPFE Gen2 dual adapter resets
1. **Problem Description:** Single flash drive failure led to multiple dual adapter resets
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 339272

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

0x166A MLE during DDM firmware update
1. **Problem Description:** DDM firmware update uses fixed wait time between each DDM update. Fix will also consider NVS utilization before starting update on the next DDM.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 319076

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:** 88.50.176.0
ID# 332765

Repeated 0x161B MLE
1. **Problem Description:** Device Adapter code could not find the location of a track to be destaged by cache. This led to multiple microcode logic errors, and warmstarts. Fix will call a single-shot On Demand Data dump instead.
2. **Potential Impact of Problem:** Repeated warmstarts, loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 329524

Device Adapter repair may remove last path to data
1. **Problem Description:** An exposure exists when running in single-cluster mode, where a repair may be allowed when it would remove the last path to data.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 333385

Operational cluster reboot while resuming offline cluster
1. **Problem Description:** While resuming an offline cluster, a latent PCIe error may cause a failure in the operational cluster
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 333402

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

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 occur if multiple host bays encounter this failure
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.50.176.0

ID# 333448

Repeated 0x1B68 MLE

1. **Problem Description:** During warmstart processing, cross-cluster messaging failed 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:** 88.50.176.0

ID# 333523

LPAR crashdump

1. **Problem Description:** An LPAR crashdump exposure exists in DS8880 systems using 10 Gb Transparent Cloud Tiering network adapters, and zHyperLink feature
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0

ID# 333771

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:** 88.50.176.0

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
5. **Release Bundle:** 88.50.176.0

ID# 333890

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

HPFE array pause during rebuild
1. **Problem Description:** An exposure was identified that can result in a pause in array activity for up to 40 seconds.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0

ID# 334999

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:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0

ID# 335122

HIPER HPFE dual expander hang
1. **Problem Description:** During error recovery, i2c bus errors were not handled properly by VRA firmware
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.50.176.0

ID# 335285

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:** 88.50.176.0

ID# 335351

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
5. **Release Bundle:** 88.50.176.0

ID# 335466

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

HIPER KCQ=52400 on IBM i systems running Geographic Mirroring
1. **Problem Description:** IBM i hosts above 7.2 TR7 or 7.3 TR3 are exposed to a loss of access when processing skip read/write commands in a Geographic Mirroring environment.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 335899

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:** 88.50.176.0
ID# 335935

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:** 88.50.176.0
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:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 337250

Incorrect response to Global Data state
1. **Problem Description:** If all the global data ranks are in a critical state, because RAID-6 is down two drives, access may be lost to all volumes.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 337352

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

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

Enhance PPRC retry behavior related to secondary long busy
1. **Problem Description:** Provide a copy services poke to drive internal retry when I/O to the secondary exceeds the specified timeout value.
2. **Potential Impact of Problem:** Degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.49.0
ID# 315141

A FlashCopy track was incorrectly prestaged
1. **Problem Description:** Prestage was attempted on some tracks that were already copied.
2. **Potential Impact of Problem:** Degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.49.0
ID# 355847

Safeguarded Copy roll-off failure
1. **Problem Description:** An external roll-off request may collide with an internally requested roll-off, resulting in roll-off failure.
2. **Potential Impact of Problem:** Safeguarded Copy out-of-space
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.49.0
ID# 356806

HMC /extra filesystem full
1. **Problem Description:** ESSNI uses /extra to store CS events when memory queue is full, but does not pull the events back from /extra when the events are processed.
2. **Potential Impact of Problem:** HMC filesystem full
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.49.0
ID# 358541

DS CLI mkhost command failed with CMUN02270E
1. **Problem Description:** mkhost failed with maximum count reached, after 4191 ports created, well short of the architected maximum of 8192.
2. **Potential Impact of Problem:** Unable to create host ports
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.49.0
ID# 358956

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Global Mirror session went fatal
1. **Problem Description:** GM Establish Revertible failed because an unexpected FlashCopy revertible command in progress flag was set.
2. **Potential Impact of Problem:** Extended GM recovery
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.49.0
ID# 359215

Copy Services Manager PPRC query failed with reason 3800
1. **Problem Description:** ESSNI fails to get table entries from multiple kernel pipe requests, resulting in 0xF28 timeouts.
2. **Potential Impact of Problem:** Degraded CSM performance,
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.49.0
ID# 359691

FB timeout waiting on SCSI task
1. **Problem Description:** A process lock was not being released during warmstart or failover events
2. **Potential Impact of Problem:** I/O delay, PPRC suspend
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.49.0
ID# 360257

Unable to restart failed CPC Processor and Memory upgrade
1. **Problem Description:** If one CPC was upgraded, and the second fails, it cannot be recovered to dual cluster without support assistance.
2. **Potential Impact of Problem:** Extended service action
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.42.0
ID# 347993

0x7001 MLE
1. **Problem Description:** Host writes to two consecutive tracks in the same operation may encounter an overlap condition in XRC processing of the tracks.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.42.0
ID# 356451

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Incorrect CS volume state shown in DS GUI
1. **Problem Description:** When notified of Copy Services state change, GUI is incorrectly handling the values provided, and showing the wrong PPRC status.
2. **Potential Impact of Problem:** Wrong information
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.42.0
ID# 356680

DS CLI 'lshostconnect' shows stale data
1. **Problem Description:** After removing zoning for a host adapter port, lshostconnect still shows the old port login information
2. **Potential Impact of Problem:** Wrong information
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.42.0
ID# 357800

Single LPAR DSI/reboot
1. **Problem Description:** Recovery code attempted to reset a Device Adapter that was not installed.
2. **Potential Impact of Problem:** Degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.42.0
ID# 358424

During CDA upgrade, HMC not available after reboot
1. **Problem Description:** During HMC upgrade (Transformation), HMC is unavailable for an extended time after reboot.
2. **Potential Impact of Problem:** Extended service action
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.59.42.0
ID# 358656

0x4143 MLE - End of Chain task timeout
1. **Problem Description:** Deadlock occurred on a read operation to a metadata track that was locked by another component.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.42.0
ID# 358787

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Reclassify Host Adapter SerDes error
1. **Problem Description:** Modify Host Adapter SerDes timeout error from 'Class A' to 'Class B', and trigger ODD Dump instead of warmstart.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.59.42.0
ID# 359049

GEO2615I Devices are Soft Fenced
1. **Problem Description:** During Hyperswap, a query to a PAV alias device incorrectly failed, because the base was in Soft Fence.
2. **Potential Impact of Problem:** Unexpected error message
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.36.0
ID# 351936

0x4433 MLE
1. **Problem Description:** End of Chain processing on an Extended Address Volume write operation encountered an arithmetic error.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.36.0
ID# 352273

DS CLI client install failure on Windows 2019 Server
1. **Problem Description:** Changes in Windows 2019 Server require an updated version of Install Anywhere software.
2. **Potential Impact of Problem:** DS CLI install failure
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.59.36.0
ID# 352995

0x4775 MLE
1. **Problem Description:** Two copy services threads were running in parallel, and out-of-order. The second thread finished first, and freed the Task Control Block, leaving the first thread stranded.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.36.0
ID# 354123

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Unable to connect to DS GUI or DSCLI
1. **Problem Description:** NI server was unable to recover from event cache database corruption.
2. **Potential Impact of Problem:** HMC login failure
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.36.0
ID# 354883

0x7FA3 MLE
1. **Problem Description:** Cache attempted to allocate Task Control Blocks from a Copy Services dynamic TCB pool that did not have any free TCBs.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.36.0
ID# 355321

I/O enclosure removal failure
1. **Problem Description:** I/O enclosures installed in the wrong locations, could not be removed without manual intervention.
2. **Potential Impact of Problem:** Extended service action
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.36.0
ID# 355419

Transparent Cloud Tiering stalled
1. **Problem Description:** High ReST API request activity can lead to Java out-of- memory errors.
2. **Potential Impact of Problem:** TCT Stall
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.59.36.0
ID# 355658

Unexpected SGC Rolloff during backup cycle
1. **Problem Description:** When increasing Safeguarded Copy capacity multiplier to ≥5, an internal flag was not reset.
2. **Potential Impact of Problem:** Unexpected SGC behavior
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.36.0
ID# 355724

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Unexpected full copy on PPRC failback
1. **Problem Description:** A temporary link error can cause a failure to read the Out-of-Sync bitmap from the secondary
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.36.0
ID# 355776

0x0645 MLE
1. **Problem Description:** zHyperLink write abort function continued to read incoming message data after mail complete flag was set.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.36.0
ID# 356046

0x4143 Command reset task timeout
1. **Problem Description:** Copy source to target deadlock while waiting for metadata invalidation to complete.
2. **Potential Impact of Problem:** Warmstarts. PPRC suspend
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.59.36.0
ID# 356488

I/O enclosure backplane repair failure
1. **Problem Description:** Model 980/981/982 systems do not recognize the newer firmware on current-build enclosure backplanes.
2. **Potential Impact of Problem:** Loss of path, Extended service action
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.36.0
ID# 356498

SGC recover fails with RC=08
1. **Problem Description:** When a FlashCopy source volume is also a Safeguarded copy source, a FLC withdraw command, using background copy, will incorrectly also perform BGC on the SGC relationship. SGC recover cannot run until the BGC completes.
2. **Potential Impact of Problem:** SGC recover command fails
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.36.0
ID# 356572

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Lock contention with high transaction write workloads
1. **Problem Description:** PPRC volumes with high transaction write workloads may encounter Remote Unit Address Control Block lock contention, caused by improper use of locking functions.
2. **Potential Impact of Problem:** Degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.36.0
ID# 356692

Improve error text for SAN-based serviceable events
1. **Problem Description:** Provide clearer explanation of error events, such as CRC, BER Exceeded, Loss of Sync, Loss of Signal. Such errors are reported by the DS8K, but are usually caused by external SAN problems.
2. **Potential Impact of Problem:** Loss of path
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.59.36.0
ID# 356719

Update Apache Log4j to address CVE-2021-44228
1. **Problem Description:** Log4j updated to version 17.1
2. **Potential Impact of Problem:** Security vulnerability
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.59.36.0
ID# 356891

CSM lost access to Global Mirror session
1. **Problem Description:** The last volume in the LSS serving as GM Master was deleted. Fix will prevent removal of the last device in an LSS, if the LSS is serving as GM Master.
2. **Potential Impact of Problem:** Loss of CSM communication
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.36.0
ID# 357038

Single LPAR Data Storage Interrupt /reboot
1. **Problem Description:** A FlashCopy extent checking task was locked, then moved to another list. A second process then acted on the Task Control Block without taking the lock, exposing the TCB to corruption during a narrow window of time.
2. **Potential Impact of Problem:** Degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.36.0
ID# 357074

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Incorrect Global Mirror session values in GUI
1. **Problem Description:** Query of GM session information is only working on sessions having an even-numbered master LSS. DS CLI queries are not affected, and will produce the correct output.
2. **Potential Impact of Problem:** Inconsistent GUI reporting
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.36.0

ID# 357147

0x4143 MLE during TCT restore
1. **Problem Description:** When performing Transparent Cloud Tiering recall or restore, Global Mirror collisions are not handled properly.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.36.0

ID# 357240

Reduce copy services bitmap lock contention
1. **Problem Description:** Reduce unnecessary calls for bitmap lock in copy services write intercept path
2. **Potential Impact of Problem:** Degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.36.0

ID# 357564

Full copy when converting MGM to multi-target MM/GM
1. **Problem Description:** When converting from cascaded to multi-target PPRC using Force Failback, the Update Secondary process initialized the OutOfSync bitmaps.
2. **Potential Impact of Problem:** Full copy to secondary
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.36.0

ID# 357676

SCG capacity alerts not sent to z/OS syslog
1. **Problem Description:** Some Safeguarded Copy capacity alerts were being filtered as dups, because a token was being reused.
2. **Potential Impact of Problem:** SGC out of space without warning.
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.36.0

ID# 357812

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

0x15E5 MLE while creating SGC recovery volumes
1. **Problem Description:** During Safeguarded Copy recover operation, a bitmap metadata segment was populated without obtaining a lock
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.36.0
ID# 357911

Back out a locking change
1. **Problem Description:** In ID# 349736, a locking change was made to improve performance, but this change has unintended side-effects in PPRC workloads with high write activity.
2. **Potential Impact of Problem:** Degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.36.0
ID# 358023

0x4143 MLE during TCT recall or restore
1. **Problem Description:** When performing Transparent Cloud Tiering recall or restore, Global Mirror collisions are not handled properly.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.28.0
ID# 357240

RESTful API query fails with SRC=BE7A0000
1. **Problem Description:** In systems with CKD volumes, RESTful queries /api/v1/volumes, and /api/v1/pools/P0/volumes, fail when Parallel Access Volumes (PAVs) are present.
2. **Potential Impact of Problem:** Unable to use RESTful API scripts
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.59.19.0
ID# 351371

I/O timeout while withdrawing FLC relation
1. **Problem Description:** While withdrawing an incremental FlashCopy relation with type 2 change recording, a write command to the Fixed Block source volume was delayed for ~10 seconds.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.19.0
ID# 352226

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Write command to FLC target fails with I/O error
1. **Problem Description:** FlashCopy target returns write inhibit error on a read-only volume. New flag is being added to Sense Subsystem Data (SNSS) response, to notify the host that the volume is read-only.
2. **Potential Impact of Problem:** Unnecessary error recovery
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.19.0
ID# 352996

SafeGuarded Copy roll-off does not send an event
1. **Problem Description:** Old SGC backups are being pruned without proper notification of SGC space constraints, and the resulting roll-off.
2. **Potential Impact of Problem:** Oldest backups removed without notification.
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.19.0
ID# 353482

GM RPO target exceeded
1. **Problem Description:** A Global Mirror sync priority handling improvement may, in rare cases, adversely affect smaller sessions. Fix provides an optional poke to revert to the prior behavior
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.19.0
ID# 353497

0x26D0 MLE
1. **Problem Description:** An out-of-space condition caused the write task to abort, but a child process had not yet finished it's work.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.19.0
ID# 353834

IOS071I Missing Device End
1. **Problem Description:** Missing Device End or command timeouts during a FlashCopy withdraw or SafeGuarded Copy Recovery, that starts BackGround Copy to a large Extent-Space-Efficient target volume.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.59.19.0
ID# 354451

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

0x0632 MLE and single LPAR reboot while formatting IBMi LUNs
1. **Problem Description:** While formatting a large number of LUNs, a local variable truncated the Task Control Block counter.
2. **Potential Impact of Problem:** Unable to complete formatting tasks
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.19.0
ID# 354511

Reduce lock contention in QuickInit code
1. **Problem Description:** Lock contention causing FlashCopy latency spikes.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.19.0
ID# 354585

0x7F0E MLE
1. **Problem Description:** A copy services Task Control Block was freed before the owning task had presented it's completion status.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.19.0
ID# 354656

Provide pokes to control Safe Data Scan timing
1. **Problem Description:** Provide a poke to enable setting of safe data scan to run at a specified time.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.19.0
ID# 354904

Global Mirror session failed after issuing FlashCopy command
1. **Problem Description:** FLC establish and withdraw commands, while system is doing single-cluster IML, will fail with 0F37 sense, causing the GM session to fail.
2. **Potential Impact of Problem:** Loss of Global Mirror function
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.19.0
ID# 355210

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

LPAR booted from the wrong bos image after FSP replacement
1. **Problem Description:** Multiple FSP replacements occurred, but code only auto-corrected the bos image pointer one time.
2. **Potential Impact of Problem:** Extended service action
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.19.0
ID# 355226

Long IBMi IPL times
1. **Problem Description:** Volume status requests were being delayed because of indications the volumes were in a PPRC relation that was being suspended.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.19.0
ID# 355659

NVS queueing when it is not full
1. **Problem Description:** Large number of Flash Copy source tracks in NVS did not trigger destage
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0
ID# 342575

HMC filesystem full
1. **Problem Description:** /tmp filesystem is filling up with NICacheEvent files
2. **Potential Impact of Problem:** HMC failure
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0
ID# 348877

0x01B7:5083 MLE
1. **Problem Description:** Task timeout caused by excessive sidefile lock contention.
2. **Potential Impact of Problem:** ODD Dump
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.59.8.0
ID# 349736

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

IEA491E PPRC Suspended
1. **Problem Description:** PPRC suspend after creation of new pairs, if the first I/O is a two-track (Torn Page) atomic write.
2. **Potential Impact of Problem:** PPRC suspend with freeze
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0
ID# 350891

No callhome after I/O enclosure fenced
1. **Problem Description:** Hardware resource was fenced, but no serviceable event was created.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0
ID# 351183

Host Adapter Header bad CRC
1. **Problem Description:** During an XRC read operation, the Host adapter detected an invalid Cache Record Control Block header.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0
ID# 351247

Incorrect FRU call-out for PCIe link errors
1. **Problem Description:** Serviceable event called out a FRU that was not part of the error domain.
2. **Potential Impact of Problem:** Repeated service actions
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0
ID# 351270

Repeated 0x20EC MLEs
1. **Problem Description:** During warmstart processing, a timing window exists where NVS and Cache SafeGuarded Copy metadata may end up out of sync.
2. **Potential Impact of Problem:** Warmstarts, single LPAR reboot
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0
ID# 351750

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Performance (RPO) Degradation
1. **Problem Description:** Potential performance degradation in systems with large number of CPUs, caused by bitmap locking contention.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0
ID# 351934

I/O delays on some Linux hosts during microcode update
1. **Problem Description:** During Failover/Failback, and Host Adapter Fastload, systems with 16Gb and 32Gb adapters terminate the Fiber Channel exchange without sending an abort sequence.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0
ID# 352227

Unable to login to DS GUI
1. **Problem Description:** HMC was continually trying to communicate with a disconnected DS CLI session, causing the message router queue to become full.
2. **Potential Impact of Problem:** Login failure
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0
ID# 352690

Performance impact running mkflash from IBM i
1. **Problem Description:** Host I/O was impacted by large numbers of Unit Attentions (State Change Interrupts) sent to the host.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0
ID# 352819

SRC BE1E2170 deadlock while performing SafeGuarded Copy
1. **Problem Description:** A task was holding an exclusive lock on a metadata track, while waiting in queue behind other tasks, that also needed access to that same metadata track.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0
ID# 353029

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Host Adapter 0xB03E MLE
1. **Problem Description:** Periodic test I/O was sent to a PPRC path that was in High Failure Rate state, but the port had been taken offline.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0
ID# 353058

Global Mirror session shows as cascaded instead of Multi-Target
1. **Problem Description:** Attempt was made to create a MTIR pair where one already existed for the same volume pairs. This caused the original MTIR pairs to be set to cascaded.
2. **Potential Impact of Problem:** Full copy of data
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0
ID# 353239

Enforce minimum SafeGuarded Copy multiplier value
1. **Problem Description:** Change SafeGuarded Copy minimum multiplier value to 1.5.
2. **Potential Impact of Problem:** SGC 'out of space' failure
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0
ID# 353447

Global Copy/Global Mirror performance degraded
1. **Problem Description:** PPRC performance impacted by overly aggressive pre-staging of Customer data tracks.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0
ID# 353463

Old CSM backup restored during manual version update
1. **Problem Description:** When using DS CLI 'installsoftware' to manually update to a newer Copy Services Manager version, an incorrect backup was restored.
2. **Potential Impact of Problem:** Revert CSM configuration changes
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.59.8.0
ID# 353660

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

0x05E0 MLE
1. **Problem Description:** A data track was moved from the cache fast write list, to destage wait list, while safe data commit scan was attempting to destage the track.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0
ID# 354148

Latency Spikes while running SafeGuarded Copy
1. **Problem Description:** High SGC activity, combined with lock contention on the backup volumes, consumed NVS space, impacting production workload.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0
ID# 354245, 354928

0x7003 MLE
1. **Problem Description:** With PPRC paths in a High Failure Rate condition, a data mover task was failed, while another completed with success. A microcode logic error led to reporting an illegal status combination.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0
ID# 343404

0x01EF MLE while terminating SGC volume(s)
1. **Problem Description:** Terminating SafeGuarded Copy relations, that are still active, may result in a Microcode Logic Error.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0
ID# 347908

0x01B7:2005 MLE during FlashCopy
1. **Problem Description:** Excessive lock contention querying In-Memory Relation Table entries during cache pre-stage grouping process.
2. **Potential Impact of Problem:** ODD Dump, FlashCopy performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0
ID# 350508

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

0x4730 MLE during logical configuration
1. **Problem Description:** When configuring a new Logical Subsystem (LSS), a timing window exists for a Microcode Logic Error, when LSS created flag is true, but performance stats table is not yet created.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0
ID# 350570

0x05E0 MLE
1. **Problem Description:** zHyperLink processing failed to obtain a Task Control Block, and took a wrong recovery path, leading to a Microcode Logic Error.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0
ID# 350974

0x01B7:70E4 MLE
1. **Problem Description:** In 192 CPU systems with high Global Mirror collision activity, excessive contention on an LSS-level lock may cause task timeouts and impact performance.
2. **Potential Impact of Problem:** Odd Dump, degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0
ID# 351146

Warmstart during code update
1. **Problem Description:** During FastPath CDA, LPAR quiesce collided with a background ODD dump process.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0
ID# 351157

0x7EB0 MLE
1. **Problem Description:** In a cascaded relationship, if Fast Reverse Restore or ReverseFlash is running on a source volume that is being removed, a mismatch of 'B' volume source and target counters may occur.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0
ID# 351227

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

0x19A4 MLE and failover during a warmstart
1. **Problem Description:** An LRC error occurred during rank creation, when a process failed to obtain a lock. Later, an unrelated warmstart discovered the LRC error, and by design, the LPAR was restarted to clean up the rank LRC.
2. **Potential Impact of Problem:** Warmstart, single LPAR reboot
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0
ID# 351525

LPAR DSI during mkfbvol
1. **Problem Description:** DSI during mkfbvol if two threads try to update the LUN traces for the new volume at the same time.
2. **Potential Impact of Problem:** LPAR DSI and failover
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0
ID# 351729

DS GUI/DSCLI CMUN00018E failure accessing HMC
1. **Problem Description:** An ESSNI deadlock condition caused login token processing failures.
2. **Potential Impact of Problem:** HMC access failure
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0
ID# 351973

Transparent Cloud Tiering slowdown
1. **Problem Description:** Timeout duration for TCT sockets can impact overall copy job performance.
2. **Potential Impact of Problem:** degraded TCT performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0
ID# 352830

0x7F0E MLE
1. **Problem Description:** A status field in a Data Mover task control block was updated after the task control block had been freed.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0
ID# 352851

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

0x0221 MLE
1. **Problem Description:** A function was attempting to peek into a Task Control Block at the same time the TCB was being flushed from cache.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0
ID# 353012

0x07D2 Host Adapter MLE
1. **Problem Description:** A microcode logic error caused one of the HA internal processors to loop while handling a correctable single-bit error condition.
2. **Potential Impact of Problem:** Loss of path, and warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.8.0
ID# 331514

0x0B8A Host Adapter MLE
1. **Problem Description:** 'Link Down' event on a HA port, during high activity periods, may lead to corruption of a linked list in the HA port wait queue.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.8.0
ID# 343249

PPRC path inoperative after a FC link event
1. **Problem Description:** Link recovery on a PPRC path led to a Destination ID (D_ID) change in the Host Adapter port, but the old D_ID also remained, creating a duplicate entry. Condition requires manual intervention to restore the path.
2. **Potential Impact of Problem:** loss of path
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.56.8.0
ID# 346912

Slow cluster hard drive
1. **Problem Description:** A failing, but still operational, cluster hard drive caused performance impact, and cluster failover
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.8.0
ID# 347791

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

SAN error recovery caused PPRC suspend

1. **Problem Description:** Fibre Channel frames arrived out of order at the PPRC secondary, but the secondary did not return out-of-order status to the primary.
2. **Potential Impact of Problem:** PPRC Suspend
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.56.8.0

ID# 348117

0x1159 MLE

1. **Problem Description:** Release Space is being called before I/O is fully quiesced for the extent
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.8.0

ID# 349185

0x1C12 MLE during Flash Drive replacement

1. **Problem Description:** Process to remove the config of the old drive collided with the process to harvest the information from the new one.
2. **Potential Impact of Problem:** Warmstart and LPAR failover
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.8.0

ID# 349355

Resource Managers hung on LPAR

1. **Problem Description:** Unable to query or stop/start RMs, or quiesce/resume the LPAR, because of a deadlock between a volume delete command, and a query operation.
2. **Potential Impact of Problem:** DSCLI command failure
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.8.0

ID# 349388

0x7D0A MLE

1. **Problem Description:** Preserve Mirror FlashCopy command required a large buffer, so a new Task Control Block was allocated to send the command to the secondary. But the calling function could not handle a callback to the new TCB, and triggered a Microcode Logic Error
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.8.0

ID# 349420

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Host I/O performance degradation while running FlashCopy

1. **Problem Description:** FlashCopy runs 32 discard scans at a time, which can impact host I/O on smaller systems
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.8.0

ID# 349521

0x1D02 MLE running SafeGuarded Copy

1. **Problem Description:** During SGC rolloff, the Device Adapter encountered an extent with an unexpected (but legal) size.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.8.0

ID# 349635

DSCLI authentication failure

1. **Problem Description:** User login timed out while synchronizing the authentication state with the peer HMC.
2. **Potential Impact of Problem:** Unable to process commands
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.8.0

ID# 349931

False 0x2031 MLE

1. **Problem Description:** Microcode Logic Error was triggered by a condition other than what it was designed to recover from.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.8.0

ID# 350506

0x20DB MLE on zHyperLink write

1. **Problem Description:** Compare-after-restore function encountered a false miscompare indication.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.8.0

ID# 350596

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Slow throughput running Transparent Cloud Tiering
1. **Problem Description:** Insufficient threading for TCT implementations with low per-thread bandwidth.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0
ID# 344422

XRC Suspend
1. **Problem Description:** No Record Found, or Invalid Track Format on XRC secondary, when using Remote Pair FlashCopy and/or XRC. A track update was not sent to the secondary because of improper sidefile processing.
2. **Potential Impact of Problem:** XRC Suspend
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0
ID# 345644

FB task timeouts after cluster hardware failover
1. **Problem Description:** After a sudden cluster down failure, PCIe error recovery may take longer than expected.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0
ID# 346864

Stuck FlashCopy relation using BackGround Copy
1. **Problem Description:** When BGC is started and the first tracks of the target are not allocated, a timing window exists where BGC may start repeatedly on the same rank, but never move on to the next rank.
2. **Potential Impact of Problem:** FlashCopy failure
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0
ID# 347081

EasyTier rebalance halt within the same Device Adapter pair
1. **Problem Description:** EasyTier does not rebalance when DA pairs are near full bandwidth utilization, even when source and target are within the same DA pair. Fix will allow rebalance within a DA pair, as this does not add to overall DA pair utilization
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0
ID# 347175

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

FlashCopy performance degradation
1. **Problem Description:** In large configurations with heavy FlashCopy usage, the system may run out of journal resources.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0
ID# 347611

FlashCopy performance degradation with Type 2 Change Recording
1. **Problem Description:** Requests for task control blocks to set Change Recording bits were being held up
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0
ID# 347782

FlashCopy performance degradation
1. **Problem Description:** Lock contention for In-Memory Relation Table resources while copying large volumes, or a source to two targets.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0
ID# 347783

Read response times elongated by cross-cluster FlashCopy
1. **Problem Description:** While XC FlashCopy will consume more resources, multiple locking inefficiencies were found to be contributing to the problem.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0
ID# 348371

Safe Guarded Copy Thaw while check-in is still running
1. **Problem Description:** SGC implementations not under Copy Services Manager control may exceed the check-in default timeout.
2. **Potential Impact of Problem:** SafeGuarded Copy Failure
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0
ID# 348513

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

XRC suspend during cluster failback to dual
1. **Problem Description:** If Remote Pair FlashCopy or XRC establish or withdraw occurs during a cluster failback, the session will suspend.
2. **Potential Impact of Problem:** XRC suspend
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0
ID# 349025

Cluster failover during HPFE drive replacement
1. **Problem Description:** During drive replacement, harvest of the new drive attributes conflicted with removal of the attributes from the failed drive.
2. **Potential Impact of Problem:** Warmstarts, Cluster Failover
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0
ID# 349351

0x0109 MLE
1. **Problem Description:** zHyperLink writes encountered a deadlock when Global Copy was being suspended.
2. **Potential Impact of Problem:** I/O timeout, warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0
ID# 349474

Resource Manager failure
1. **Problem Description:** Resource Manager runs out of Adapter Platform Object Model file descriptors.
2. **Potential Impact of Problem:** Copy Service Manager/CS Toolkit communication failure
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.55.9.0
ID# 320360

Performance dip / 0x01B7:3041 MLE after a warmstart
1. **Problem Description:** Lock contention on global Reconnect Control Block resources.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.55.9.0
ID# 335072, 340755

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

MetroMirror suspended
1. **Problem Description:** Data arrived out of order at the secondary, causing the secondary to send unexpected status to the primary.
2. **Potential Impact of Problem:** PPRC Suspend
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 340716

0x790B MLE running Dataset-level cascaded FlashCopy
1. **Problem Description:** While creating and withdrawing multiple relationships, a microcode logic error was encountered in Background Copy queue management.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 341109

0x05E0 MLE
1. **Problem Description:** Incorrect control structures were found when presenting PPRC path notifications.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.55.9.0
ID# 341866

0x07D2 Host Adapter MLE while removing PPRC paths
1. **Problem Description:** Host Adapter was very busy processing a large number of PPRC path removes, and missed a heartbeat timer interval.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 343299

Stale LDAP cache
1. **Problem Description:** ESSNI does not detect LDAP changes, and continues to use cached tokens.
2. **Potential Impact of Problem:** Security exposure
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 344326

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

0x516C MLE
1. **Problem Description:** In a persistent all-registrants reserve, code did not properly handle the case where a reconnecting host triggered a read of reserve metadata, and the listed originator of the reserve was no longer registered. Second half is to automatically clear stale Persistent Reserve metadata during IML.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.55.9.0
ID# 344552, 346629

Host timeout during HyperSwap
1. **Problem Description:** Add a poke to disable the release space process during PPRC Failback.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 344999

Track destage thread stalled
1. **Problem Description:** A small timing window exists where a Task Control Block can hang while waiting for a flag to to be cleared, but the task that would clear the flag has already completed. This condition will persist until the system is warmstarted.
2. **Potential Impact of Problem:** PPRC suspend
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.55.9.0
ID# 345144

CMUN02947E error removing SafeGuarded Copy volumes
1. **Problem Description:** After withdrawing SafeGuarded Copy consistency groups and terminate SGC, reservations remained on the volumes, preventing their removal.
2. **Potential Impact of Problem:** Unable to remove former SGC volumes
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 345211

Copy Services Manager unable to communicate with HMCs
1. **Problem Description:** ESSNI is unable to execute firewall scripts because of a path issue.
2. **Potential Impact of Problem:** HMC communication failure
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 346028

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

RPO falling behind
1. **Problem Description:** Large Global Mirror environments may exceed existing resource allocations for FlashCopy per cluster and port.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 346138

PPRC path throughput imbalance
1. **Problem Description:** Path selection algorithms may incorrectly calculate path activity in some environments. Additional options are being provided, that can be enabled by poke.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 346458

0x1D07 MLE
1. **Problem Description:** During high zHPF write activity, a write operation may encounter a microcode logic error while waiting for a data buffer.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 346587

0x516C MLE
1. **Problem Description:** In a persistent all-registrants reserve, code did not properly handle the case where a reconnecting host triggered a read of reserve metadata, and the listed originator of the reserve was no longer registered. Second half is to automatically clear stale Persistent Reserve metadata during IML.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.55.9.0
ID# 346629

Erratic SafeGuarded Copy consistency group performance
1. **Problem Description:** SafeGuarded Copy check-in task is not running at a high enough priority.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 346680

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Host Adapter 0x0B8A MLE
1. **Problem Description:** During HA fastload, failure to handle linked commands triggered a microcode logic error in the adapter.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 346953

0x0109 MLE
1. **Problem Description:** Pathing thread attempted to lock a unit address control block that it already held the lock for.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 346977

Vary path online failure
1. **Problem Description:** Host Adapter ports were stuck in "Remove Logical Path in Progress" state.
2. **Potential Impact of Problem:** loss of path
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 346983

0xB10A MLE
1. **Problem Description:** Host adapter received unexpected PRocess LogOut on a PPRC path. PRLO is specific to FICON, and should not be seen on a Fibre Channel Protocol port.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 347305

Global Mirror FlashCopy hang
1. **Problem Description:** While attempting to quiesce Background QuickInit on a volume, a data structure was zeroed, causing quiesce code to indicate the quiesce was still in progress
2. **Potential Impact of Problem:** PPRC suspend
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 347334

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

0x05E0 MLE
1. **Problem Description:** A task freed it's lock before it was completely done processing.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 347497

0x6070 Host Adapter MLE
1. **Problem Description:** Host Adapter received Link Busy from a FICON channel, when no I/O was in progress.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 347540

Host Adapter communication timeout after cluster quiesce
1. **Problem Description:** Code load process requested ODD collection, but did not wait for data collection to finish, before quiescing the next LPAR.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 347685

Fixed Block_BUSY status on read
1. **Problem Description:** Read operation on FlashCopy source is receiving "Try later" response caused by invalid flags while checking for a revertible relation.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 347832

DS GUI and DSCLI login fails with CMUN00018E
1. **Problem Description:** Authentication timeouts led to a timer failing to reset.
2. **Potential Impact of Problem:** Unable to access the HMC
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 347870

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Make journal block reclamation pokeable persistent
1. **Problem Description:** csjrFreshMgrTimeoutSec pokeable did not persist through cluster IML.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 347918

Adjust data stripe destage calculations
1. **Problem Description:** Destage code is not optimized for current stripe structure, where extents may not begin on a stripe boundary.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 348119

Read cache performance on background copy workloads
1. **Problem Description:** Changes made to improve cleaning of metadata extents created some unintended side-effects for sequential read operations.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 348133

Preserve Mirror FlashCopy suspend
1. **Problem Description:** PMFLC suspended because of a Track Format Descriptor mismatch on the target
2. **Potential Impact of Problem:** PMFLC suspend.
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.37.0
ID# 346053

0x1070 MLE during DDM/Flash firmware update
1. **Problem Description:** While a rank is in PreEmptive Reconstruct (PER) mode, a command was allowed to be sent to the quiesced member
2. **Potential Impact of Problem:** Warmstart, possible cluster failover.
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 330277

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Slow migration when pinning volumes to flash tier
1. **Problem Description:** Migration progress was slowed by background list processing.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 335436

SRC=BE1E1402 EasyTier rate below 0.05
1. **Problem Description:** EasyTier repeatedly attempted to migrate extents to a rank that did not have enough free space
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 340195

0x4477 MLE
1. **Problem Description:** A zHPF multi-track read operation encountered a microcode logic error during end-of-chain processing.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 340236

0x7F70 MLE
1. **Problem Description:** During a cascaded FlashCopy destage, a microcode logic error caused incorrect detection whether the track bitmap had been modified
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 340455

0x0103 MLE
1. **Problem Description:** Transparent Cloud Tiering task was called with an incorrect parameter
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 341746

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

0x7F91 MLE
1. **Problem Description:** Task Control Block deadlock occurred while processing heavy large-volume FlashCopy workload
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 342201

0x4599 MLE while establishing Remote Pair FlashCopy
1. **Problem Description:** Cluster quiesce/resume during RPFC establish exposed a microcode logic error.
2. **Potential Impact of Problem:** RPFC establish errors, Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 342526

Host Adapter MLE while running SafeGuarded Copy
1. **Problem Description:** Host Adapter LRC miscompare while running SafeGuarded Copy
2. **Potential Impact of Problem:** Warmstarts
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.54.31.0
ID# 342553

Slow GDPS data migration
1. **Problem Description:** During forced withdraw of a Multi-Target Incremental Resync pair, Out-of-Sync information was discarded, causing full copy to be done.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 342585

Orphan FlashCopy relation on secondary
1. **Problem Description:** A Persistent Mirror FlashCopy relation with two primaries was withdrawn, and a PPRC relation ID mismatch caused only the primary relations to be removed.
2. **Potential Impact of Problem:** Unable to perform FlashCopy
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 344111

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Easy Tier warm promote missed
1. **Problem Description:** Calculation was missing sequential I/O activity
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 344226

I/O bay repair failed deactivation
1. **Problem Description:** On systems with 128 host ports, Host Adapter resource managers may run out of memory
2. **Potential Impact of Problem:** Extended I/O bay repair
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.53.5.0
ID# 339888

Rank depopulation failed
1. **Problem Description:** Background QuickInit failed to acquire a Task Control Block
2. **Potential Impact of Problem:** DePop failure
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.53.5.0
ID# 341636

PPRC write timeouts
1. **Problem Description:** Systems running 88.52.21.0 or 88.52.23.0 are exposed to task timeouts and PPRC suspend when using Torn Page function in Metro Global Mirror environment.
2. **Potential Impact of Problem:** PPRC Suspend
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.53.5.0
ID# 343216

FlashCopy target write inhibit
1. **Problem Description:** A small timing window exists when writing to a FlashCopy target volume, where a bitmap may become corrupted.
2. **Potential Impact of Problem:** Failed FlashCopy job
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.52.21.0
ID# 333268

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

0x7D0E MLE
1. **Problem Description:** A race condition between threads caused a process control lock to be released twice.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.52.21.0
ID# 336221

Global Mirror degraded performance
1. **Problem Description:** Write Intercepts delayed because of lock contention issues.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.52.21.0
ID# 337607

IOS071I Start Pending when establishing Metro Mirror pair(s)
1. **Problem Description:** During first pass volume copy, system may log
   IOS071I ... START PENDING STATUS: I/O OPERATION IS EXECUTING and
   IOS071I ... START PENDING STATUS: I/O WAITING FOR EXTENT CONFLICT
   when the following conditions are true:
   - zHPF write chain with multiple domains
   - DB2 Castout Accelerator active
   - Descending track order between domains (legal but unusual)
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.52.21.0
ID# 339203

CMUN80519E when modifying an existing PPRC pair
1. **Problem Description:** When modifying an existing PPRC pair to enable Multi-Target or to start/stop Metro Global Mirror-Incremental Resync, internal logic flags are set incorrectly.
2. **Potential Impact of Problem:** Cannot establish a Multi Target pair or send a Release Space command to the secondary
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.52.21.0
ID# 339686

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

0x0B8A MLE and Host Adapter reboot
1. **Problem Description:** z System aborted during a zHPF transfer with > 55 records, triggering a Host Adapter DSI and HA reboot
2. **Potential Impact of Problem:** loss of path
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.52.21.0
ID# 339936

0x01B7 and 0x7D13 MLEs
1. **Problem Description:** Global Mirror subsystem query operations are taking a higher-level lock than necessary, leading to lock contention.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.52.21.0
ID# 339978

Very slow response from DSCLI 'lsckdvol' or 'lsfbvol' command
1. **Problem Description:** lsckdvol or lsfbvol command response very slow in systems running R8.5 levels of code with a large number of volumes.
2. **Potential Impact of Problem:** DSCLI command timeouts
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.52.21.0
ID# 339984

PPRC path not moving data
1. **Problem Description:** PPRC path with high workload can experience a Task Control Block leak, depleting all available Host Adapter port TCBs
2. **Potential Impact of Problem:** loss of path
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.52.21.0
ID# 340222

HMC2 WebUI fails to start after update to R8.5
1. **Problem Description:** A file left over from manufacturing caused the HMC hostname to revert to 'localhost2'.
2. **Potential Impact of Problem:** Loss of access to HMC2
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.52.21.0
ID# 340441

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

PPRC Suspend
1. **Problem Description:** During PPRC establish, space release on secondary may exceed the timeout value
2. **Potential Impact of Problem:** PPRC Suspend
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.52.21.0
ID# 340949

HMC2 WebUI fails to start after update to R8.5
1. **Problem Description:** A file left over from manufacturing caused the HMC hostname to revert to 'localhost2'.
2. **Potential Impact of Problem:** Loss of access to HMC2
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.51.53.0
ID# 340441

PPRC suspended
1. **Problem Description:** Copy Source to Target process hung while processing the last partial stride in the source extent
2. **Potential Impact of Problem:** PPRC Suspend
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 336924

PPRC Suspended
1. **Problem Description:** PPRC multi-track writes deadlocked with safe data commit scan of cache metadata.
2. **Potential Impact of Problem:** PPRC Suspend
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 337297

0x2716 MLE during rank creation
1. **Problem Description:** ESE extent was allocated for QuickInit metadata, before rank setup was complete.
2. **Potential Impact of Problem:** Cluster Failover
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 337522

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

0x0109 MLE with IBM i hosts
1. **Problem Description:** Error during cache access while processing a Skip Read/Write command
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 337751

0x0109 MLE when disabling zHyperLink writes
1. **Problem Description:** Disable function attempted to acquire a lock when it already had another.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 338524

HA path fail after warmstart
1. **Problem Description:** Abort during Process Logout phase left behind a stale exchange, preventing link cleanup.
2. **Potential Impact of Problem:** loss of path
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 338688

0x0109 MLE
1. **Problem Description:** Lock contention while processing the low-priority PPRC wait queue
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 338866

0x7F07 MLE
1. **Problem Description:** Performing CDA from R8.2 or earlier levels, to R8.5 or later levels, the LPAR on the old code does not understand the flashcopy status being sent by the LPAR that running on the new code.
2. **Potential Impact of Problem:** Warmstart, CDA suspend
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 339520

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

0x05E0 MLE
1. **Problem Description:** Locking exception while a PAV alias device is trying to query whether the base device has a reserve.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.50.176.0
ID# 331106

Performance degradation when one MTMM leg is suspended
1. **Problem Description:** In Multi-Target Metro Mirror configuration, using zHyperWrite, when one of the target relationships is suspended, the MTMM primary shows some increase in disconnect times.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 332739

0xB11D MLE during Host Adapter fastload
1. **Problem Description:** PPRC link error recovery during Lights-On HA FastLoad exposed a microcode logic error in the path redrive function
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 333183

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
5. **Release Bundle:** 88.50.176.0
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
5. **Release Bundle:** 88.50.176.0
ID# 334084

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

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:** 88.50.176.0
ID# 334675

0x513D MLE
1. **Problem Description:** Fixed Block component received an unexpected return code from Cache component
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 334722

FICON channel errors after swap to new CPU
1. **Problem Description:** When the original CPU was shutdown, the Host Adapter port did not clear flags that indicate features supported by the CPU, causing a mismatch when the new CPU was brought up.
2. **Potential Impact of Problem:** Channel detected errors
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 335051

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:** 88.50.176.0
ID# 335067

0x552C MLE
1. **Problem Description:** A timing condition was exposed when an abort request occurred at the same time as a datamover allocation request
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.50.176.0
ID# 335151

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

0x430A Host Adapter MLE
1. **Problem Description:** Host adapter read track request returned an incorrect record.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 335415

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:** 88.50.176.0
ID# 335470

0x13DA MLE
1. **Problem Description:** Two Dynamic Extent Relocation requests are migrating the same extent
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 335529

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:** 88.50.176.0
ID# 335547

0x1045 MLE
1. **Problem Description:** Device Adapter requested to stage past the last sector in the track
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 336014

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

0x0632 MLE
1. **Problem Description:** During Copy Source to Target operation, Space Release caused the target extent to be deallocated
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 336085

0x7410 MLE
1. **Problem Description:** When establishing a Metro-Global-Mirror session, if A->B is established before B->C, I/O will be flowing to B during the B->C establish, exposing a microcode logic error.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.50.176.0
ID# 336397

High PPRC response times
1. **Problem Description:** Lock contention on PPRC secondary during write complete processing
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 336501

HMC Java OutOfMemory condition
1. **Problem Description:** Missing statement.close() caused a java.lang.OutOfMemoryError condition
2. **Potential Impact of Problem:** HMC communication failures
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 336651

PPRC Track Format Descriptor mismatch
1. **Problem Description:** Task was aborted on primary, but completed normally on secondary
2. **Potential Impact of Problem:** PPRC Suspend
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 336838

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

0x7200 MLE
1. **Problem Description:** A locking issue led to code checking a Concurrent Copy volume bitmap that no longer existed.
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 337053

0x0109 MLE
1. **Problem Description:** Lock spin timeouts occurred during warmstart.
2. **Potential Impact of Problem:** Multiple warmstarts, failover
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 337366

Service: A recoverable error, Service improvements.

0x01B7:717B MLE
1. **Problem Description:** Out-of-Sync query must loop through all Global Mirror volumes, and with large numbers of volumes, the thread is staying on CPU too long.
2. **Potential Impact of Problem:** ODD Dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.59.36.0
ID# 355714

DSCLI 'showgmir' command returns incorrect values
1. **Problem Description:** Global Mirror has a buffer overflow issue when calculating the percentage of successful consistency groups
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.36.0
ID# 355716

False warning when configuring > 64 LUNs to a pSeries host
1. **Problem Description:** Warning should only be shown when the host is IBM i.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.36.0
ID# 355720

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Incorrect storage facility capacity shown in REST API
1. **Problem Description:** Capacity was calculated using MiB factor, instead of MB.
2. **Potential Impact of Problem:** Incorrect reporting
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.36.0
ID# 356383

LCD monitor displays "out of range" error
1. **Problem Description:** Monitor refresh rate is out of range when switching the display between HMCs.
2. **Potential Impact of Problem:** Extended service action
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.36.0
ID# 356447

0x7E38 MLE
1. **Problem Description:** Remote Pair FlashCopy fail, with multiple extents having the same source and target volume, triggered a Microcode Logic Error.
2. **Potential Impact of Problem:** ODD dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.59.19.0
ID# 352133

SafeGuarded Copy volumes are included in overall volume count
1. **Problem Description:** In DS GUI and DS CLI, Logical Corruption Protection volumes should be hidden from volume queries.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.19.0
ID# 352598

Unexpected SF shutdown during repair
1. **Problem Description:** During a non-concurrent Storage Enclosure midplane replacement, in a small configuration, repair code incorrectly determined the repair would remove the last path to Global Metadata.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.19.0
ID# 354497

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

0x01B7:501D and :702E MLEs
1. **Problem Description:** Write Intercept command chain exceeded the timeout limit while trying to obtain a lock.
2. **Potential Impact of Problem:** ODD dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.19.0
ID# 355218

0x01B7:50AA MLE
1. **Problem Description:** When comparing/changing volume group pages for SCSI mask hosts, an error processing bitmaps caused unnecessary processing to be done.
2. **Potential Impact of Problem:** ODD dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.19.0
ID# 355394

Negative raw capacity values in DS GUI and Storage Insights
1. **Problem Description:** In very large systems, raw capacity may exceed the bounds of an integer variable field, resulting in arithmetic error, and a negative result is shown.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.19.0
ID# 355524

False SRC=BE340073 logged during flash drive failure
1. **Problem Description:** RAS was attempting to remove an unhealthy Flash Drive from an array, but hardware RAID manager had already rejected it.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.19.0
ID# 355626

HMC Customer network routing config lost
1. **Problem Description:** In HMCs with the dual-Customer-NIC RPQ, routing configuration may not persist after an HMC reboot or reload.
2. **Potential Impact of Problem:** Cannot access HMC remotely
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.19.0
ID# 356089

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

zHyperLink wrap test missing prompt
1. **Problem Description:** While running a zHyperLink wrap test, SSR was not prompted to install the wrap plug.
2. **Potential Impact of Problem:** Repair/Verify failure
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0
ID# 351966

Encryption key retrieval failures
1. **Problem Description:** When periodic key retrieval delivered invalid certificate data, ESSNI failed to return an error indication, because of a NegativeArraySize exception.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0
ID# 352068

SAN 'fcping' utility fails on newer Host Adapters
1. **Problem Description:** Extended Link Service Echo command returns "not supported" response on 16Gb and 32Gb host adapters.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0
ID# 352177

0x01B7:1000 MLE
1. **Problem Description:** Insufficient retries allowed for NVS Track ID list lock spin processing.
2. **Potential Impact of Problem:** ODD Dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0
ID# 353730

Incorrect FRU list order
1. **Problem Description:** HPFE Gen2 midplane VPD error incorrectly prioritizes Expander module replacement before the midplane.
2. **Potential Impact of Problem:** Repeated service actions
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0
ID# 353886

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

mkaliasvol fails with CMUN04003E error
1. **Problem Description:** Creating multiple CKD alias volumes may trigger an internal Resource Manager core dump, if the RM exceeds available resources.
2. **Potential Impact of Problem:** Failure to create PAVs
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0
ID# 354071

SRC BE19005A caused by RPC register corruption
1. **Problem Description:** While running a procedure to recover the Storage Facility Resource Manager configuration to the HMC, parallel threads were accessing the same RPC register location, leading to corrupted register contents.
2. **Potential Impact of Problem:** Repeated repair actions
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0
ID# 354545

0x01B7:1006 MLE
1. **Problem Description:** A segment pool function is holding a thread longer than allowed.
2. **Potential Impact of Problem:** ODD dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.58.3.0
ID# 338996

0x01B7:50DB MLE
1. **Problem Description:** A task timed out because a prior task in the thread ran longer than expected.
2. **Potential Impact of Problem:** ODD Dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0
ID# 350212

Incorrect TKLM status display
1. **Problem Description:** lskeymanager command incorrectly showed 'critical' status when a thread with multiple processes exceeded the timeout value.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0
ID# 350404

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Transparent Cloud Tiering setnetworkport error
1. **Problem Description:** CMUN04003E error setting TCT network interface IP address, when Primary/Secondary DNS are '0.0.0.0'
2. **Potential Impact of Problem:** Unable to configure IP addresses
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0
ID# 350546

Unable to determine user role permissions in logs
1. **Problem Description:** Custom user role permissions are only shown when creating them. Once those logs are wrapped, the permissions assigned to a custom user role cannot be determined.
2. **Potential Impact of Problem:** Extended problem determination
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0
ID# 350757

Resource Manager crash during system field install
1. **Problem Description:** During flash drive certify phase, a timing window exists where Storage Enclosure Power Supply Unit harvest may trigger Resource Manager process to fail.
2. **Potential Impact of Problem:** Extended service action
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0
ID# 350758

Code bundle activation hang
1. **Problem Description:** A locking exception caused the code update process to hang while backing up HMC critical data.
2. **Potential Impact of Problem:** Extended service action
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0
ID# 351993

Incorrect VRAID adapter resource state
1. **Problem Description:** After a CDA recovery, VRAID adapter Resource Manager attributes incorrectly showed the adapters in 'Offline' state.
2. **Potential Impact of Problem:** Extended service action
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0
ID# 352042

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Incorrect system inlet temperature indication
1. **Problem Description:** Function to read system inlet temperature was attempting to read an unsupported zone sensor
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0
ID# 352467

DSCLI 'showcluster' command failure
1. **Problem Description:** Using the embedded HMC DSCLI, 'showcluster' failed with CMMCI909E error.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0
ID# 352554

CDA suspend while second LPAR is being updated
1. **Problem Description:** An ESSNI query of a new Resource Manager attribute caused the Resource Manager to terminate.
2. **Potential Impact of Problem:** Extended service action
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0
ID# 353588

0x01B7:506A MLE
1. **Problem Description:** Metadata lock contention on Metro Mirror secondary when it is also a Global Copy or Multi-Target Incremental Resync primary.
2. **Potential Impact of Problem:** ODD dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.57.8.0
ID# 337694

Ambiguous HyperSwap failure sense
1. **Problem Description:** In a HyperSwap "go to sync" failure, the sense needs an additional qualifier to clarify the reason for the failure.
2. **Potential Impact of Problem:** Extended problem determination
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.57.8.0
ID# 345088

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

HMC code update failure
1. **Problem Description:** HMC failed to function after code update, because a required function was not updated.
2. **Potential Impact of Problem:** Extended code update activity
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.57.8.0
ID# 347978

Flash Drives rejected for SAS path errors
1. **Problem Description:** Flash drives were incorrectly rejected for SAS path errors that were affecting multiple drives.
2. **Potential Impact of Problem:** Extended service actions
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.57.8.0
ID# 348994

0x01B7:1000 MLE
1. **Problem Description:** During 'stage grouping' on cascaded FlashCopy target, the thread may exceed the timeout limit.
2. **Potential Impact of Problem:** ODD dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.57.8.0
ID# 349225

HMC network description settings lost
1. **Problem Description:** During private network IP range change procedure, a persistent information file was removed.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.57.8.0
ID# 349227

Enclosure Service Module repair failure
1. **Problem Description:** HPFE Gen2 ESM repair failed because a prior recovery left the adapter device busses in a quiesced state.
2. **Potential Impact of Problem:** Extended repair action
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.57.8.0
ID# 349576

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Excessive metadata pre-stage activity
1. **Problem Description:** On PPRC primary, a flag is not being cleared after every valid metadata pre-stage.
2. **Potential Impact of Problem:** Unnecessary work being done
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.57.8.0
ID# 350070

False SRC=BE34002B 'Out of Spares' condition
1. **Problem Description:** A function to query predicted capacity was left open, each time it was run. Eventually enough resources were consumed, to the degree that Resource Manager functions began to fail.
2. **Potential Impact of Problem:** Resource Management failure
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.57.8.0
ID# 350490

MES install failure
1. **Problem Description:** Drive failure during HPFE Gen2 MES install required manual intervention to complete the install.
2. **Potential Impact of Problem:** Extended service action
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.57.8.0
ID# 350777

0x7D0E MLE running XRC or Concurrent Copy on VM with minidisks
1. **Problem Description:** Code attempted to free a lock that was already freed.
2. **Potential Impact of Problem:** ODD Dump (88.11.45.0 and later)
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.56.9.0
ID# 324851

0x7E3A MLE with Global Mirror FlashCopy
1. **Problem Description:** Extent-Space-Efficient space release during background copy encountered a microcode logic error.
2. **Potential Impact of Problem:** ODD Dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.56.9.0
ID# 341999

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

HMC replacement failure
1. **Problem Description:** Hardware Management Console replacement process failed to establish communication with LPARs.
2. **Potential Impact of Problem:** Extended service action
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0
ID# 342834

DS GUI export incomplete
1. **Problem Description:** Current GUI Export System Summary function does not provide all the information that the previous GUI export provided. But previous GUI export may not provide reliable information.
2. **Potential Impact of Problem:** Incorrect exported information
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0
ID# 345308

Read/Write counters are incorrectly reporting usage
1. **Problem Description:** Interval counters may under-report sequential R/W activity
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0
ID# 347829

Change of internal address range caused code upgrade failure
1. **Problem Description:** While CDA preload was active, the internal networks were changed to an alternate address range. Subsequent code activation reverted the change on the internal servers.
2. **Potential Impact of Problem:** Extended service action
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0
ID# 347854

AOS config panel display incorrect
1. **Problem Description:** AssistOnSite config panel displays incorrectly when authenticated proxy is configured with a password containing "@".
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0
ID# 348208

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

mkarray failed with CMUN02013E

1. **Problem Description:** In device adapter pairs with an intermix of drive capacities and speeds, an array site may become intermixed because of prior failures and subsequent repair actions. If an intermixed array is removed, the intermix condition may prevent reconfiguring the array.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0

ID# 348279

HMC heartbeat callhome triggers SNMP alert

1. **Problem Description:** If SNMP is configured for Trap 3 notifications, after the next HMC reboot, SNMP will begin also reporting Trap 13 events.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0

ID# 348520

HMC Hardware API fails to start

1. **Problem Description:** If resource manager query returns rack2 objects first, HW API may fail to start.
2. **Potential Impact of Problem:** Unable to login to HMC
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0

ID# 348614

HMC WUI fails CE and Customer login

1. **Problem Description:** CE or Customer login returned "Invalid user name or password specified" because of a Pluggable Authentication Module (PAM) failure.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0

ID# 348649

NTP server config missing after HMC update

1. **Problem Description:** Function to remove default public NTP servers can also remove Customer-configured public NTP servers.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0

ID# 348834

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Flash drive errors not cleared during repair
1. **Problem Description:** HPFE drive error counts are preserved through the replacement process, when the same drive is still in the enclosure.
2. **Potential Impact of Problem:** Drive pseudo-repair fails
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0
ID# 349062

RemotePathStateChanged message incomplete
1. **Problem Description:** Status message should display 9 fields for PPRC path status, but only 8 are shown.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0
ID# 349226

Transparent Cloud Tiering time out with no error message
1. **Problem Description:** When an abort is received, TCT waits for the pipe to empty before posting a message
2. **Potential Impact of Problem:** ODD Dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0
ID# 349337

SCSI_DISK_ERR5 messages on AIX host
1. **Problem Description:** When performing a write same unmap command, DS8K does not receive a data block from the host before starting the unmap.
2. **Potential Impact of Problem:** Host errors
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0
ID# 349562

AOS connection failure
1. **Problem Description:** Assist OnSite connection via proxy fails, and AOS must be restarted.
2. **Potential Impact of Problem:** Remote support access failure
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 327293

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

REST API '500' error
1. **Problem Description:** Transparent Cloud Tiering connector is unable to communicate in systems that are changed to an alternate internal address range.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 341148

REST API shows incorrect CKD capacity
1. **Problem Description:** Capacity units were changed from extents for both Fixed Block and Count-Key-Data, to MB for FB, and cylinders for CKD. But conversion was not provided for cylinders to MB.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 341739

LPAR dumps "re-compressed" during IML
1. **Problem Description:** When pruning old dumps, the newest should not be pruned, regardless of age.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 342391

0x01B7:2002 MLE
1. **Problem Description:** Tasks that are queued waiting on a resource, will begin processing as soon as that resource is available. In systems with very high activity, that task may not be able to obtain a thread within the allotted time.
2. **Potential Impact of Problem:** ODD Dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 342636

0x01B7:3043 MLE
1. **Problem Description:** High numbers of unsolicited status interrupt threads may encounter ReConnect Control Block contention, leading to thread timeouts.
2. **Potential Impact of Problem:** ODD Dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.55.9.0
ID# 343541

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Unable to install Customer-signed certificates using Chrome
1. **Problem Description:** Unable to upload certificate files using newer versions of Chrome browser.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.55.9.0
ID# 344292

0x980A and 0x01E8 MLEs
1. **Problem Description:** Error recovery failure when a single Rack Power Control card lost communication with both DC-UPSs
2. **Potential Impact of Problem:** ODD Dumps
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 345082

CMUN00017E while attempting password change
1. **Problem Description:** User created under a custom role cannot change their own password
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 345571

UPS battery replacement failure
1. **Problem Description:** Model 983 UPS battery replacement failed because the new battery was greater than 8 months old.
2. **Potential Impact of Problem:** Extended service action
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 345674

Expansion rack install failure
1. **Problem Description:** Rack object harvest failed because of a syntax error.
2. **Potential Impact of Problem:** Extended service action
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 345881

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

HMC hang condition
1. **Problem Description:** HMC hang, cleared by reboot. This fix will add a function from R9 code to monitor and collect additional data to aid in problem determination.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 345949

0x01B7:506A MLE
1. **Problem Description:** Lock contention on Copy Services SideFile and eXtended Distance Consistency Session locks, during periods of high Global Mirror collision activity.
2. **Potential Impact of Problem:** ODD Dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.55.9.0
ID# 345989

HMC console Shift+M shortcut fails
1. **Problem Description:** After opening browser, DS Storage Manager link works, but Shift+M shortcut displays an error.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 346048

DS GUI audit log offload fails
1. **Problem Description:** Two ESSNI functions were combined into a single .jar file in R8.5 SP1.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 346266

DS GUI displays incorrect Fibre Channel port state information
1. **Problem Description:** In Settings -> Fibre Channel Ports -> State Column, GUI is showing incorrect "Online" status.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 346302

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

SSD spare taken for HDD array site
1. **Problem Description:** In rare cases, a 400G SSD spare may be used to spare out a 300G DDM during dual loop rebalance on intermixed DA pairs.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 346338

0x5170 MLE
1. **Problem Description:** FlashCopy withdraw encountered a deadlock condition when the target volume was also in Validation Required state.
2. **Potential Impact of Problem:** ODD Dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 346528

DS GUI cache resync hang
1. **Problem Description:** Volume Rebalance was stalled because it encountered out of space condition on target ranks, then restarted rather than processing the next queue.
2. **Potential Impact of Problem:** DS GUI storage manager hang
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 346610

Unable to login to WUI
1. **Problem Description:** WUI login fails if default "Customer" ID does not exist. (Customer ID is automatically removed when creating other users with "esshmccustomer" role.)
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.55.9.0
ID# 346643

Test Callhome utility failure
1. **Problem Description:** When running Test Callhome utility, two synchronous processes conflict, causing process hang and eventual test failure.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 346851

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Unable to access DS GUI
1. **Problem Description:** After code update, DS GUI cache refresh was slowed by query threads consuming large amounts of CPU time.
2. **Potential Impact of Problem:** DS GUI login failure
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 346852

DS GUI does not show performance data
1. **Problem Description:** Performance graph does not display when the system has less than 25 minutes of performance data accumulated.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 346907

CMUN80000E login failure after Customer network IP change
1. **Problem Description:** If the first configured remote authentication URL is unreachable, HMC does not retry over the second configured URL.
2. **Potential Impact of Problem:** Unable to authenticate via LDAP
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 346946

CSM communication failure
1. **Problem Description:** A stuck thread in ESSNI causes queries from Copy Services Manager to fail. This change will perform a thread dump when an ESSNI PE package is collected prior to restart.
2. **Potential Impact of Problem:** CSM in Severe status
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 347048

0x7E1D MLE during PMFLC establish on cascaded secondary
1. **Problem Description:** After waiting 15 seconds for sync to complete, primary retried the Preserve Mirror FLashCopy establish, but retry found the relationship already exists.
2. **Potential Impact of Problem:** ODD Dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 347123

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Incorrect DSCLI help text
1. **Problem Description:** Help text for lsckdvol and lsfbbvol commands shows columns that are not shown by DSCLI itself.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 347203

0x01B7 MLE
1. **Problem Description:** Cache Directory Control Block lock contention while processing an ODD Dump.
2. **Potential Impact of Problem:** ODD Dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.37.0
ID# 341027

HMC services slow to respond
1. **Problem Description:** ESSNI threads consuming 100% CPU.
2. **Potential Impact of Problem:** HMC unresponsive
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.37.0
ID# 343933

FlashCopy onto GM returns incorrect status
1. **Problem Description:** Attempt to establish an unsupported Flash Copy relation onto Global Mirror failed as expected, but the operation reported good status.
2. **Potential Impact of Problem:** Incorrect status
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.37.0
ID# 345867

False SRC=BE1E1406 for CKD small extent pools
1. **Problem Description:** Space reserve calculation for EasyTier did not properly consider the difference between Fixed Block and Count-Key-Data extent sizes.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 332915

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

0x1D07 MLE
1. **Problem Description:** A microcode logic error may occur when performing backward-cascaded C->A FlashCopy, and logical volume 0000 does not exist.
2. **Potential Impact of Problem:** ODD dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 336807

Callhome entitlement failure
1. **Problem Description:** System was attempting to call home using the machine type/serial number of one of the internal p systems.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 339664

HPFE firmware update failure
1. **Problem Description:** Enclosure Services Module firmware update failed because an incorrect parameter was passed
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 340679

Unable to download code bundles from Fix Central
1. **Problem Description:** System was configured with administrator contact in a different country, and download did not try entitlement using both country codes
2. **Potential Impact of Problem:** Unable to perform Remote Code Load
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 340798

HMC remote authentication failed
1. **Problem Description:** HMC failed to open port 9562 for LDAP access, and did not retry
2. **Potential Impact of Problem:** Unable to login using LDAP
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.54.31.0
ID# 340815

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

DSCLI unable to connect
1. **Problem Description:** HMC had ESSNI queue full condition, and did not redirect DSCLI request through the partner HMC
2. **Potential Impact of Problem:** DSCLI command failures
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 340933

0x01B7 MLE during FlashCopy establish or withdraw
1. **Problem Description:** FlashCopy establish/withdraw presents State Change Interrupts to to all logical paths, even if the device is not online or a member of a path group. In large configurations, SCI processing may exceed the 180mS timeout value.
2. **Potential Impact of Problem:** ODDdump
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 340980

HMCs inaccessible
1. **Problem Description:** Java.net.SocketException: Too many open files errors caused by use of an incorrect parameter
2. **Potential Impact of Problem:** Unable to monitor/control DS8000
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 341328

CDA Preload Failure
1. **Problem Description:** Preload failed cloning LPAR boot volume, then subsequent preload retry ended with SRC=BE9CE1FF, because of a NullPointerException while processing the update package list.
2. **Potential Impact of Problem:** Extended service window
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 341703

mkfbvol command fails with CMUN02667E message
1. **Problem Description:** System incorrectly calculated the maximum capacity for Virtual Rank Auxiliary Volumes
2. **Potential Impact of Problem:** Unable to create volumes
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 341756, 342018

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

LPAR Resource Manager failure during CDA
1. **Problem Description:** During Code Distribution and Activation, when the LPARs are running on different levels, a resource harvest process failed because of attributes that only exist in the new code level.
2. **Potential Impact of Problem:** HMC monitoring/management failure
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 341972

HMC /var filesystem full after rebuild
1. **Problem Description:** A file used in the previous GUI was not pruned
2. **Potential Impact of Problem:** DS GUI failure
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 342096

VRAID Adapter Map inconsistent output
1. **Problem Description:** When displaying internal HPFE path status, the column order in the output may be inconsistent
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 342226

DSCLI CMUN00018E message on HP-UX host
1. **Problem Description:** HMC code incorrectly attempted to connect using the wrong SSL protocols
2. **Potential Impact of Problem:** Host unable to connect to HMC
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 342415

NTP hostname truncated
1. **Problem Description:** HMC limited NTP hostname to 20 characters
2. **Potential Impact of Problem:** NTP failure
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 342479, 342558

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Spectrum Control out-of-memory condition
1. **Problem Description:** Log processor queue can fill faster than logs are able to be written to file
2. **Potential Impact of Problem:** Frequent out-of-memory dumps
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 342724

Unable to set SIM reporting to 4
1. **Problem Description:** Setting SIM reporting to 4 (none) results in an 'invalid value' message
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 342765, 342868, 342956

Spectrum Control NullPointerException
1. **Problem Description:** NullPointerException connecting to ESSNI service in HMCs
2. **Potential Impact of Problem:** Unable to monitor the system
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 342857

DSCLI CMUN00014E message
1. **Problem Description:** chaccess -cim does not work if using -hmc all
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 342890

0x01B7 MLE during PPRC failover/failback
1. **Problem Description:** Out-of-Sync bitmap merge operation exceeded the 180mS timeout value
2. **Potential Impact of Problem:** ODDdump
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 343005

DS8882F UPS fenced
1. **Problem Description:** Unused power outlets were detected offline
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 343045

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

ESSNI database not recreated during startup
1. **Problem Description:** During startup, database errors are not always detected properly
2. **Potential Impact of Problem:** ESSNI communication failure
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 343287

CMUN80991E message configuring key manager
1. **Problem Description:** ESSNI failed to properly evaluate the supplied encryption group ID.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 343802

Missing lsfbvol and lsckdvol display
1. **Problem Description:** DSCLI commands showfbvol -metrics and showckdvol -metrics fail when using R8,5 DSCLI client on a system running an older code version
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 343981

Heartbeat interval changed after CDA
1. **Problem Description:** After HMC transformation or rebuild, heartbeat callhome reverts to the default 7 day interval.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 344092

0x01B7 MLE destaging metadata
1. **Problem Description:** Very high metadata destage activity led to task timeouts
2. **Potential Impact of Problem:** ODDdump
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 344127

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

DS GUI CMUN80564E message loading cache
1. **Problem Description:** In systems with large numbers of volume groups, the query selection string exceeds the maximum length
2. **Potential Impact of Problem:** DS GUI failure
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 344232

DS8882F repeat UPS battery failure
1. **Problem Description:** Battery replacement was never completed because of a missing UPS state definition
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 344266

SRC=BE610034 after Secure Data Overwrite
1. **Problem Description:** After SDO completes, if HMC is rebooted, SRC is logged for unexpected reboot during SDO.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.53.5.0
ID# 339446

UPS fenced when changing time zone
1. **Problem Description:** Failure when setting UPS to UTC -3 time zone
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.53.5.0
ID# 339890

Secondary HMC update failed
1. **Problem Description:** During LIC upgrade, secondary HMC failed to update because of a hung preload process
2. **Potential Impact of Problem:** LIC update failure
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.53.5.0
ID# 341106

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Collect additional code levels in heartbeat data
1. **Problem Description:** Heartbeat collected code levels file only contains HMC and ICS related entries. Process improved to collect all currently installed levels.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.53.5.0
ID# 341259

CMUN00014E message while configuring SKLM
1. **Problem Description:** When using DS CLI below version 8.5, key server creation fails with a null pointer exception
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.53.5.0
ID# 341344

Copy Services Manager and DS CLI communication failure
1. **Problem Description:** CSM caused an ESSNI Out-of-Memory condition
2. **Potential Impact of Problem:** HMC communication failure
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.53.5.0
ID# 341485

Unable to repair failed DDM
1. **Problem Description:** Replacement drive was rejected because a stale resource manager attribute was not cleared by the repair.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.53.5.0
ID# 341505

Flash Drives show incorrect values in DS GUI
1. **Problem Description:** A microcode logic error may cause drives to display an incorrect interface rate value.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.53.5.0
ID# 341885

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Incorrect path status reporting in HPFE Gen2
1. **Problem Description:** High Performance Flash Enclosure Gen2 may provide stale indication of degraded path(s).
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.53.5.0
ID# 341951

HMC upgrade failure
1. **Problem Description:** During HMC update/upgrade, individual package update failure may not be detected.
2. **Potential Impact of Problem:** Unscheduled HMC reload
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.53.5.0
ID# 342154

Auto-Reboot HMC after MLE
1. **Problem Description:** After a kernel microcode logic error, HMC will auto-reboot and surface SRC=BE179000
2. **Potential Impact of Problem:** HMC unavailable
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.53.5.0
ID# 342160

Deleted user ID reappears after reboot
1. **Problem Description:** When default local users like 'CE' or 'Customer' have been deleted, logic to recreate them during reboot was not suppressed.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.53.5.0
ID# 342469

Unable to perform VRAID adapter replacement
1. **Problem Description:** Partner adapter would not allow the repair, even though neither adapter could see the problem drive slot
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.52.21.0
ID# 339210

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Remote syslog message flood
1. **Problem Description:** Incorrect HMC rsyslog rule order
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.52.21.0
ID# 339450

HMC callhome, heartbeat, and remote support failure
1. **Problem Description:** HMC firewall rules specified only the port, without including the destination IP address. If the rule is removed, it affects all destinations.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.52.21.0
ID# 339486

0x01B7 MLE
1. **Problem Description:** With large number of dataset-level FlashCopy relationships, queries can take too long to complete
2. **Potential Impact of Problem:** ODD Dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.52.21.0
ID# 339691

0x01B7 MLE
1. **Problem Description:** In systems with "6 PCIe port" I/O bay hardware, if zHyperLink is not installed, a variable does not get initialized. This condition may cause bay heartbeat to time out on a locking exception.
2. **Potential Impact of Problem:** ODD Dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.52.21.0
ID# 339729

ODD Data Collection Timeout
1. **Problem Description:** Changes made to support zHyperLink data collection may cause the data collection to exceed the timeout value.
2. **Potential Impact of Problem:** ODD data collection failure
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.52.21.0
ID# 339887

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

UPS fenced when changing time zone
1. **Problem Description:** Failure when setting UPS to UTC -3 time zone
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.52.21.0
ID# 339890

DS GUI and Easy Tier hang
1. **Problem Description:** Locking exception during Easy Tier extent relocation caused DS GUI communication failure, until cleared by warmstart
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.52.21.0
ID# 339980

0x01B7 MLE
1. **Problem Description:** Unique Concurrent Copy workloads can cause lock contention
2. **Potential Impact of Problem:** ODD Dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.52.21.0
ID# 340334

0x01B7 MLE
1. **Problem Description:** Lock contention caused by many query functions taking a lock they do not need to take;
2. **Potential Impact of Problem:** ODD dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.52.21.0
ID# 340430

False BSM set EoL message
1. **Problem Description:** Battery End-of-life check failed because of a communication error.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 334468

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

DC-UPS battery still fenced after replacement
1. **Problem Description:** Battery End-of-Life check ran while the battery set was still being replaced.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 335620

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:** 88.51.49.0
ID# 336684

Abort field install when an unknown rack is present
1. **Problem Description:** Field-merge A and B racks were installed as a system, leaving some install tasks undone
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 336709

Auto-Offload PE package incomplete
1. **Problem Description:** Auto-offload process sent the PE package before all compress operations were completed.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 336710

Serious alert, but no callhome
1. **Problem Description:** Callhome of the event was left disabled by a prior failed repair attempt that was aborted by HMC reboot.
2. **Potential Impact of Problem:** Callhome failure
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 337554

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Expand FRU list for SRC=BE316003
1. **Problem Description:** Improve FRU call for transient LRC errors on Device Adapter loops
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 337555

Allow DSGUI/DSCLI passwords > 16 characters
1. **Problem Description:** Client was unable to create strong user passwords longer than 16 characters
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 338295

0x166A MLE during HPFE Gen2 firmware download
1. **Problem Description:** System date/time was adjusted during firmware download, exposing a microcode logic error
2. **Potential Impact of Problem:** ODD dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 338304

DS GUI reports false Global Mirror session messages
1. **Problem Description:** DS GUI repeatedly displays false "GM session copy state changed to running" messages.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 338372

Rank create failed
1. **Problem Description:** Ranks were previously removed, but stale Resource Groups were left behind.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 338551

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

zHyperLink transceiver wrap error
1. **Problem Description:** Wrap test continually failed because cumulative wrap test link error counters were not being cleared.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 338830

I/O enclosure repair action failed
1. **Problem Description:** IOBay firmware was not unpacked on the HMC that was driving the repair.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 338923

Unable to terminate MTIR pairs
1. **Problem Description:** Multi-Target Incrementay Resync secondary pairs could not be manually terminated, where no path exists between the two secondary storage systems.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 339236

LDAP configuration failures
1. **Problem Description:** HMC cipher suite is insufficient for some current LDAP implementations
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 339340

Remote syslog message flood
1. **Problem Description:** Incorrect HMC rsyslog rule order
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 339450

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

CSM/DSCLI show incorrect SafeGuarded Copy information
1. **Problem Description:** In systems upgraded to R8.5 bundles before Copy Services license key is installed, SafeGuarded Copy message service is not started
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 339620

Unable to access DS GUI after installing Customer-supplied certificate
1. **Problem Description:** Installation process did not restart the web server
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.184.0
ID# 337849

Heat Map Transfer Utility did not run after changing start time.
1. **Problem Description:** When changing the start time for heat map transfer, the change does not take effect until after the previously scheduled time has passed.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 284341

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
5. **Release Bundle:** 88.50.176.0
ID# 327902

Heat Map Transfer Utility listening on random TCP port
1. **Problem Description:** HMTU interface process was communicating with the HMTU daemon via ephemeral external interface port, rather than using an internal localhost connection.
2. **Potential Impact of Problem:** Security scan concerns
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 329489

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

0x01B7 MLE
1. **Problem Description:** Lock contention during Copy Services write intercept to set/reset track Out of Sync bit
2. **Potential Impact of Problem:** On Demand Data (ODD) dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.50.176.0
ID# 330095

Problem importing locally administered certificates
1. **Problem Description:** GUI messages are providing the incorrect HMC ID
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 331686

Unable to change array scrub rate
1. **Problem Description:** Change to array scrub rate was rejected because another resource value was incorrectly initialized.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 331744

Space Release failed on PPRC secondary
1. **Problem Description:** During PPRC establish, code failed to determine that the secondary system was configured with space-efficient volumes.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 331774

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
5. **Release Bundle:** 88.50.176.0
ID# 331799

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

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:** 88.50.176.0
ID# 332574

Excessive logging of VOLSER change events
1. **Problem Description:** VOLSER volume change events can appear to flood the event logs.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 332635

Unable to copy certificates from secondary HMC to primary HMC
1. **Problem Description:** When downloading locally administered certificates created on the secondary HMC, to the primary HMC, browser shows the file has zero bytes.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 332904

CMUN00018E error accessing DS GUI or DSCLI
1. **Problem Description:** ESSNI process fails to start because of an endless loop while processing user id / password pairs
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 333019

Encryption Wizard removes all server definitions
1. **Problem Description:** When using the DS GUI Encryption Wizard to modify the key server list, all servers are removed, and the list must be recreated.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 333049

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

CMUN02975E error when migrating ESE volume between pools

1. **Problem Description:** Extent Space Efficient volume migration failed because the migration ate into the pool space reserved for... ESE volumes.
2. **Potential Impact of Problem:** Migration failure
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0

ID# 333460

False SRC=BE33CE9C logged during warmstart

1. **Problem Description:** During warmstart, Device Adapter reset code incorrectly flags a temporary loss of access.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0

ID# 333586

REST API authentication failure

1. **Problem Description:** When HMCs are configured for LDAP authentication, REST API is unable to generate login token
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0

ID# 333588

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
5. **Release Bundle:** 88.50.176.0

ID# 333772

False SRC=BE11105B after CEC hard drive replacement

1. **Problem Description:** After replacing a failed CEC hard drive, a microcode logic error caused a false serviceable event against the alternate CEC hard drive
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0

ID# 333925

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Data lost track list incorrect for volumes with 64-bit LBAs
1. **Problem Description:** The listdataloss function does not produce a usable track list for volumes with 64-bit Logical Block Addresses
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 334005

Transparent Cloud Tiering authentication error
1. **Problem Description:** Intermittent unauthorized error when attempting to authenticate via cloud proxy
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 334169

CMUN80000E DS Network server is unavailable
1. **Problem Description:** When remote authentication is enabled, local admin user could not connect because authentication request is being sent to LDAP
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 334265

CMUN04003E lshost: Operation failure: internal error
1. **Problem Description:** When creating a very large number of host port definitions, internal Resource Manager query may exceed the allowed memory page size
2. **Potential Impact of Problem:** Cannot display/create host ports
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 334271

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:** 88.50.176.0
ID# 334322

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

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:** 88.50.176.0
ID# 334449

DS8880 service GUI information does not match z14
1. **Problem Description:** zHyperLink details display in service GUI is not consistent with the information shown in z14
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 334478

DSCLI information does not match z14
1. **Problem Description:** zHyperLink details in 'lszhyperlinkport -metrics' is not consistent with the information shown in z14
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 334479

CEC to I/O bay PCIe link failure analysis
1. **Problem Description:** Initial failure isolation of PCIe soft bus errors did not include all relevant FRUs when generating the serviceable event
2. **Potential Impact of Problem:** Multiple service actions
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 334482

0x1D07 MLE
1. **Problem Description:** Host sent mode sense command to LUN address 0, but LUN address 0 was not assigned to a logical volume
2. **Potential Impact of Problem:** On Demand Data (ODD) dump
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 88.50.176.0
ID# 334573

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Cannot delete LSS
1. **Problem Description:** Force option does not allow LSS deletion when volumes exist
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 334719

IEA3071 on PPRC secondary devices during IPL
1. **Problem Description:** Sense Subsystem Status (SNSS) data did not accurately reflect that the PPRC secondary DS8K was in a cascading relationship.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 334798

DSCLI rmckdvol command failed with message CMUC00189E
1. **Problem Description:** Command failed because an incorrect storage image ID was provided, but the message text returned was not clear about the failure reason
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 334818

SRC=BE3825A8 FRU list incomplete
1. **Problem Description:** PCIe link failure SRC=BE3825A8 included the PCIe adapters in the CEC and I/O bay, but did not include the PCIe cable that connects between them
2. **Potential Impact of Problem:** Extended service actions
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 334879

DSCLI lsextpool command returns '-' value
1. **Problem Description:** Calculation of allocated extents exceeded the 32-bit maximum integer value, causing an arithmetic error
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 335058

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Incorrect FRU call for PCIe adapter failure
1. **Problem Description:** PCIe adapter failure correctly fenced LPAR0, but serviceable event called for replacement of the same adapter in CEC1
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 335193

SRC=BE340113 Health Check failed
1. **Problem Description:** Health check failed because a file used to track health check failures was empty
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 335309

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:** 88.50.176.0
ID# 335729

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:** 88.50.176.0
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:** 88.50.176.0
ID# 336177

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

mkcloudserver returns ambiguous error messages
1. **Problem Description:** Fix improves and adds error messages
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 336997

7.6 TB Flash drive errors
1. **Problem Description:** Improve drive resiliency for 4K and 6K read workloads
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 337072

java/lang/OutOfMemoryError on LPARs
1. **Problem Description:** Copy Services Commands contain too many repetitive strings
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 337260

HMC passswords reset to default after reload
1. **Problem Description:** After HMC critical data restore, the security database sync operation was interrupted by a DSGUI login attempt.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 337451

Space Release issues during PPRC failover/failback
1. **Problem Description:** Improper tracking of space release may cause increased data transfer once pair is resumed.
2. **Potential Impact of Problem:** degraded performance
3. **Problem Severity:** Moderate, Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 337891

DS GUI missing 'Encryption' tab
1. **Problem Description:** After enabling encryption, DS GUI did not refresh the Encryption panel
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 337911

DS GUI shows incorrect recovery key state
1. **Problem Description:** After enabling encryption, Recovery Key shown as 'Configured' but it had not been generated yet.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0
ID# 337912

Improvements: Improvements for better usability

Suppress link down notifications for zHyperLinks
1. **Problem Description:** Reduce nuisance SRC BE3A290D zHyperLink notifications for external link down events.
2. **Potential Impact of Problem:** None
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.49.0
ID# 351153

Throttle PPRC initial copy
1. **Problem Description:** PPRC initial copy can cause host impact if too much copying is initiated in parallel. This change will limit the number of empty tracks that can be transferred in parallel.
2. **Potential Impact of Problem:** Degraded performance
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.49.0
ID# 359018

Remove ODDs from warmstart notification
1. **Problem Description:** Non-disruptive ODD Dumps should not trigger warmstart notifications.
2. **Potential Impact of Problem:** None
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.49.0
ID# 359318

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Host Adapter First-Time Data Capture
1. **Problem Description:** FTDC - Detect possible buffer leakage in FICON microcode
2. **Potential Impact of Problem:** None
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.49.0
ID# 359432

Disable weak cipher suites
1. **Problem Description:** Security scans complain about the presence of weak ciphers.
2. **Potential Impact of Problem:** None
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.49.0
ID# 360399

Support new error code sense for failbackpprc
1. **Problem Description:** Create and return new 0x7415 code when receiving sense data 0F74-15 from microcode.
2. **Potential Impact of Problem:** None
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.42.0
ID# 357731

Data capture enhancement for 0x7F05 MLE
1. **Problem Description:** Improve data capture for a rare microcode logic error that can trigger a warmstart.
2. **Potential Impact of Problem:** None
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.42.0
ID# 358054

Provide an additional AOS broker
1. **Problem Description:** Provide additional Assist OnSite broker 'aosback.us.ihost.com' for remote support access.
2. **Potential Impact of Problem:** None
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.42.0
ID# 358759

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Improve SCSI-PR3 Compliance
1. **Problem Description:** Add Read Full Status action support for the SCSI Persistent Reserve In (5E) command.
2. **Potential Impact of Problem:** None
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.36.0
ID# 356553

Improve first-time data capture
1. **Problem Description:** Add long i/o traces to default PE package data collection
2. **Potential Impact of Problem:** None
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.36.0
ID# 356924

SafeGuarded Copy performance enhancement
1. **Problem Description:** Implement a new Optimization Bitmap to improve performance while performing SGC Recover operations.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.21.0, 88.59.36.0
ID# 356292

Remove EMC super administrator HMC role
1. **Problem Description:** Remove HMC role that is no longer used.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.59.8.0
ID# 350825

Customer access to AOS logs
1. **Problem Description:** Provide ability for Customer to view and offload AOS audit logs from the HMC WUI.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.58.3.0
ID# 351015

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Enhance host health checking on secondary volumes
1. **Problem Description:** Allow FICON Read Accessibility Mask (RAM) command to a secondary device
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.57.8.0
ID# 349826

SafeGuarded Copy performance enhancement
1. **Problem Description:** Support a cascaded Global Mirror session to perform the SafeGuarded Copy. The cascaded session will form consistency groups when the primary GM is paused with consistency.
    Note: Implementation requires APAR PH31059.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.57.8.0
ID# 350308

Improve DS GUI performance graph accuracy
1. **Problem Description:** Add Read Physical Disconnect Time and Write Physical Disconnect time to Device Performance Statistics.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0
ID# 346042

Improve storage enclosure cable check
1. **Problem Description:** Storage enclosure mis-cabling during field install
2. **Potential Impact of Problem:** Extended install duration
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.56.9.0
ID# 349842

Allow SafeGuarded Copy target to be persistent
1. **Problem Description:** For GDPS environments, support is added to allow persistent SGC volumes.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.55.9.0
ID# 346529

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

ESSNI tracing improvements
1. **Problem Description:** Improve logging in ESSNI, to provide better information about the cause of HMC communication issues.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 339955

Add CDA history to heartbeat data
1. **Problem Description:** Provide Code Distribution and Activation history data to heartbeat data collection
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 341010

Enhance Fiber Channel Ports page in DS GUI
1. **Problem Description:** Show columns "Frame", I/O Enclosure" and "HA Card" in System page, and Settings -> Network
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 343010

lsioport command enhancement
1. **Problem Description:** Add columns "Frame", "I/O Enclosure" and "HA Card" for lsioport -l
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 343011

Remove ESSNI database from HMC backups
1. **Problem Description:** Avoid database issues after HMC reload, by letting ESSNI recreate it's database
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0
ID# 343444

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

FTDC improvement for 0x4143 MLE
1. **Problem Description:** Additional First-Time Data Capture routines
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0

ID# 344287

Update remote access information in callhome data
1. **Problem Description:** Provide additional information for AOS and RSC remote support access methods
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.54.31.0

ID# 345136

Disable direct ssh login from Customer network
1. **Problem Description:** Improve security by closing ssh port 22 for direct login. Does not affect remote support via AOS or RSC
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.53.5.0

ID# 338691

Auto-Offload LPAR crash dumps
1. **Problem Description:** Current offload methods allow offload without impacting remote support login capability
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.53.5.0

ID# 340545

Limit drive rejections during installation testing
1. **Problem Description:** Cabling issues during Storage Facility install can lead to many false drive failures that have to be recovered
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.52.21.0

ID# 339579

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Callhome for PPRC link errors
1. **Problem Description:** Provide visibility for PPRC links that are experiencing intermittent FC link errors
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 331024

Enable DC-UPS automatic battery test
1. **Problem Description:** Improve detection of batteries that have reached early end-of-life
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 334711

Add cloud type for generic S3 cloud
1. **Problem Description:** Add new cloud type support for Transparent Cloud Tiering
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 337174

New SRC BE198CFA
1. **Problem Description:** Provide new refcode to indicate "RPC internal register contains unexpected value".
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 338733

Improve Device Adapter LRC checking
1. **Problem Description:** Change CKD LRC strategy from per-track to per-record.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0
ID# 338865

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Remove HMC warning popup
1. **Problem Description:** Remove unnecessary warning message that displays when performing a repair action using an HMC that is not acting as Problem Analysis primary.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.51.49.0

ID# 339498

Improve missing extent checking during volume creation
1. **Problem Description:** In the past, volume create could succeed in some cases where full provisioned volumes did not allocate all extents. This fix enhances the extent checking code to prevent future occurrences.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0

ID# 329365

Change default GM ESE space release parameters
1. **Problem Description:** The default values for the following Global Mirror Extent Space Efficient space release pokeables are changed:
   csEsePoolOverThresholdValue = 85
   csEsePoolOFSValue = 97
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0

ID# 333611

lsrank slow output on large ranks
1. **Problem Description:** Multiple improvements were made to streamline the querying of rank resources
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 88.50.176.0

ID# 334768

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

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:** 88.50.176.0

ID# 336382

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1

Trademarks

The following terms are trademarks of the International Business Machines
Corporation in the United States, other countries, or both.

> AIX
> Enterprise Storage Server
> ESCON
> FICON
> i5/OS
> iSeries
> IBM
> pSeries
> S/390
> System Storage
> TotalStorage
> z/OS
> zSeries

IBM, the IBM logo, and ibm.com are trademarks or registered trademarks of
International Business Machines Corp., registered in many jurisdictions worldwide.
Other product and service names might be trademarks of IBM or other companies.
A current list of IBM trademarks is available on the web at Copyright and
trademark information at http://www.ibm.com/legal/us/en/copytrade.shtml.
Adobe, the Adobe logo, PostScript, and the PostScript logo are either registered
trademarks or trademarks of Adobe Systems Incorporated in the United States,
and/or other countries.
Java and all Java-based trademarks and logos are trademarks or registered
trademarks of Oracle and/or its affiliates.
Linux is a trademark of Linus Torvalds in the United States, other countries, or
both.
Microsoft, Windows, and Windows NT are trademarks of Microsoft Corporation in
the United States, other countries, or both.

Notices

This information was developed for products and services offered in the U.S.A.
IBM may not offer the products, services, or features discussed in this document in
other countries. Consult your local IBM representative for information on the
products and services currently available in your area. Any reference to an IBM
product, program, or service is not intended to state or imply that only that IBM
product, program, or service may be used. Any functionally equivalent product,
program, or service that does not infringe any IBM intellectual property right may
be used instead. However, it is the user's responsibility to evaluate and verify the
operation of any non-IBM product, program, or service.
IBM may have patents or pending patent applications covering subject matter
described in this document. The furnishing of this document does not give you
any license to these patents. You can send license inquiries, in writing, to:
IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

IBM System Storage - DS8880 Disk Storage
88.50.x.x Release Notes Cumulative Summary v13.1