

IBM System Storage - DS8900F Disk Storage

89.30.x.x Release Notes Cumulative Summary v3.3.6

Date: 26 June 2024

VRMF Level Data Results:

VRMF level From:	89.30.68.0
VRMF Level To:	89.33.52.0
Report for:	DS8900F

Code Bundle Contents

DS8900F Code Bundle Level	SEA or LMC Version:	DSCSI Client	Heat Map Transfer Utility	Storage Manager	Copy Services Manager
89.33.52.0	7.9.33.132	7.9.33.95	7.9.33.95	5.9.33.1052	6.3.8.0
89.33.51.0	7.9.33.130	7.9.33.95	7.9.33.95	5.9.33.1051	6.3.8.0
89.33.48.0	7.9.33.118	7.9.33.95	7.9.33.95	5.9.33.1047	6.3.8.0
89.33.45.0	7.9.33.112	7.9.33.95	7.9.33.95	5.9.33.1044	6.3.8.0
89.33.42.0	7.9.33.106	7.9.33.95	7.9.33.95	5.9.33.1041	6.3.7.0
89.33.40.0	7.9.33.102	7.9.33.95	7.9.33.95	5.9.33.1039	6.3.7.0
89.33.35.0	7.9.33.95	7.9.33.95	7.9.33.95	5.9.33.1035	6.3.6.0
89.32.40.0	7.9.32.126	7.9.32.101	7.9.32.101	5.9.32.1054	6.3.4
89.32.37.0	7.9.32.101	7.9.32.101	7.9.32.101	5.9.32.1043	6.3.4
89.31.26.0	7.9.31.54	7.9.31.54	7.9.31.54	5.9.31.1023	6.3.3
89.30.68.0	7.9.30.154	7.9.30.154	7.9.30.154	5.9.30.1074	6.3.2.1

This is a summary of the fixes in the R9.3 microcode releases.

Select Modifications Included in this Release Note:

This is a list of some modifications contained across one or more LIC (License Internal Code) or microcode release(s). The potential impact is variable. Specific environments may aggravate or degrade the potential impact. Problem(s) fixed and reported in this release note may not be in higher levels of code bundles.

Definition of Problem Severity:

1	High Impact	- Acute: 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

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Acute: An irrecoverable error with potential loss of data.

HIPER Potential undetected loss of DS8000 CKD Remote Pair Flashcopy Target data

- 1 **Problem Description:** <https://www.ibm.com/support/pages/node/7158073>
 - 2 **Potential Impact of Problem:** Loss of data
 - 3 **Environment:** Remote Pair Flashcopy on 89.33.35.0 – 89.41.23.0 bundles
 - 4 **Problem Severity:** HIPER
 - 5 **Release Bundle:** 89.33.52.0
 - 6 **Pervasive Problem:** No
- ID# 367397

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 **Environment:** All using Safeguarded Copy
 - 4 **Problem Severity:** HIPER
 - 5 **Pervasive Problem:** No
 - 6 **Release Bundle:** 89.33.51.0
- 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 **Environment:** All using Remote Pair Flashcopy
 - 4 **Problem Severity:** HIPER
 - 5 **Pervasive Problem:** No
 - 6 **Release Bundle:** 89.33.51.0
- ID# 365221

HIPER Inconsistent undetected Safeguarded Copy backup data after DS8900F LPAR failover/failback

- 1 **Problem Description:** <https://www.ibm.com/support/pages/node/7108909>
 - 2 **Potential Impact of Problem:** Loss of data
 - 3 **Environment:** Safeguarded Copy on R9.3 SP2 - 89.32.37.0 or higher
 - 4 **Problem Severity:** HIPER
 - 5 **Pervasive Problem:** No
 - 6 **Release Bundle:** 89.33.48.0
- ID# 364258

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HIPER Loss of Safeguarded backup, using multiple control and monitoring functions

- 1 Problem Description:** <https://www.ibm.com/support/pages/node/7047627>
- 2 Potential Impact of Problem:** Loss of data
- 3 Environment:** All Safeguarded Copy / Logical Corruption Protection
- 4 Problem Severity:** HIPER
- 5 Pervasive Problem:** Yes
- 6 Release Bundle:** 89.33.45.0

ID# 363044

HIPER Potential DS8900F Data Loss during a power failure event

- 1 Problem Description:** <https://www.ibm.com/support/pages/node/7084247>
- 2 Potential Impact of Problem:** Loss of data
- 3 Environment:** All DS8900F
- 4 Problem Severity:** HIPER
- 5 Pervasive Problem:** Yes
- 6 Release Bundle:** 89.33.45.0

ID# 363205

HIPER Inconsistent data on Safeguarded recovery volume

- 1 Problem Description:** <https://www.ibm.com/support/pages/node/7067777>
- 2 Potential Impact of Problem:** Loss of data
- 3 Environment:** Safeguarded recovery on R9.3 SP3.x
- 4 Problem Severity:** HIPER
- 5 Pervasive Problem:** No
- 6 Release Bundle:** 89.33.45.0

ID# 363544

Track Format Descriptor mismatch on PPRC secondary

- 1 Problem Description:** Changes made to fix Preserve Mirror FlashCopy failures exposed a timing window that can lead to loss of data on PPRC secondary.
- 2 Potential Impact of Problem:** Loss of data on PPRC secondary
- 3 Environment:** DS8900F running R9.3 SP2 (89.32.37.0)
- 4 Problem Severity:** High Impact
- 5 Pervasive Problem:** No
- 6 Release Bundle:** 89.33.35.0

ID# 360573

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 Environment:** All CKD
- 4 Problem Severity:** High Impact
- 5 Pervasive Problem:** No
- 6 Release Bundle:** 89.31.26.0

ID# 358450

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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 Environment:** Systems running TCT
 - 4 Problem Severity:** High Impact
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.30.68.0
- ID# 356928

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 Environment:** R9.2 SP1.3 and SP1.4 systems running Safeguarded Copy
 - 4 Problem Severity:** High Impact
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.30.68.0
- ID# 357988

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

HIPER Transparent Cloud Tiering Out of Memory

- 1 Problem Description:** Multiple issues in TCT may lead to out-of-memory conditions, requiring support and/or development intervention to resolve.
 - 2 Potential Impact of Problem:** Loss of TCT function
 - 3 Environment:** All using TCT
 - 4 Problem Severity:** HIPER
 - 5 Pervasive Problem:** Yes
 - 6 Release Bundle:** 89.33.42.0
- ID# 361014

Global Mirror fails to form consistency groups

- 1 Problem Description:** When GM is paused, and all volumes are removed from a session, but the session is left open on the LSS (an empty session), when GM is resumed, it will fail to form CGs. This problem can be avoided by also removing the empty LSS (LCU) before resuming GM.
 - 2 Potential Impact of Problem:** Global Mirror failure
 - 3 Environment:** Global Mirror on R9.3 code
 - 4 Problem Severity:** High Impact
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.42.0
- ID# 362536

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Transparent Cloud Tiering migration failure

- 1 Problem Description:** Repeated rmcloudserver and mkcloudserver commands exposed a memory leak in the LPAR Application Framework code. Recovery requires restart of AppFw service.
 - 2 Potential Impact of Problem:** Loss of TCT function
 - 3 Environment:** Systems using TCT
 - 4 Problem Severity:** High Impact
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- ID# 358294

Safeguarded Copy caused Global Mirror suspend

- 1 Problem Description:** If a Safeguarded Copy is interrupted by error handling behavior (e.g. warmstart) the source volume can be left in checkin_in_progress state. This will cause a "try later" response to I/O requests.
 - 2 Potential Impact of Problem:** Loss of access
 - 3 Environment:** Systems using Safeguarded Copy
 - 4 Problem Severity:** High Impact
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- ID# 359167

Transparent Cloud Tiering failure

- 1 Problem Description:** IBM Java has identified a memory heap size issue. This can lead to TCT processes hanging and needing to be restarted.
 - 2 Potential Impact of Problem:** Loss of TCT function
 - 3 Environment:** Systems running TCT
 - 4 Problem Severity:** High Impact
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- ID# 359709

0x4143 MLE End-of-chain task timeout

- 1 Problem Description:** While cleaning up a stale relationship on the Metro Mirror secondary, incorrect handling of task locks led to a deadlock condition.
 - 2 Potential Impact of Problem:** Repeated warmstarts
 - 3 Environment:** R9.3 SP2 running Metro/Global Mirror, and using dataset-level preserve mirror FlashCopy on MM secondary.
 - 4 Problem Severity:** High Impact
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- ID# 360285

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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 Environment:** All DS8900F using PPRC
 - 4 Problem Severity:** High Impact
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- 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 Environment:** Systems using zHyperLink and PPRC
 - 4 Problem Severity:** High Impact
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- ID# 360292

Safeguarded Copy out-of-space, and GM suspend

- 1 Problem Description:** With Safeguarded Copy destage grouping, If a Safeguarded volume is a Global Mirror secondary, GM revertible on consistency formation can interrupt the Safeguarded group copying, causing the group to fail. The tracks allocated for the group are not freed, which can lead to out-of-space conditions.
 - 2 Potential Impact of Problem:** Safeguarded pool out of space, GM suspend
 - 3 Environment:** SafeGuarded copy on R9.3
 - 4 Problem Severity:** High Impact
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- ID# 360302

Transparent Cloud Tiering silent failures

- 1 Problem Description:** TCT is not handling some error responses from Amazon Web Services. TCT fails with no feedback when it receives an error response from AWS, even if TCT could recover from that situation.
 - 2 Potential Impact of Problem:** Loss of TCT function
 - 3 Environment:** TCT with AWS cloud
 - 4 Problem Severity:** High Impact
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- ID# 360637

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HIPER LDAP authentication failure

- 1 Problem Description:** Unable to login after code update, using native LDAP with bind password configured.
 - 2 Potential Impact of Problem:** LDAP failure
 - 3 Environment:** ≥R9.3 SP2 (89.32.37.0) and LDAP with bind PW
 - 4 Problem Severity:** HIPER
 - 5 Pervasive Problem:** Yes
 - 6 Release Bundle:** 89.33.35.0
- ID# 360682

Safeguarded Copy out of space

- 1 Problem Description:** Bitmaps are incorrectly set when Running Fast Reverse Restores on Safeguarded volumes. this leads to unnecessary full copy to the target, and can also lead to premature SC out of space.
 - 2 Potential Impact of Problem:** Loss of access
 - 3 Environment:** Safeguarded Copy and R9.3
 - 4 Problem Severity:** High Impact
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- ID# 360749

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 Environment:** All
 - 4 Problem Severity:** High Impact
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- 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:** CSM reports CopyServices sessions as severe.
 - 3 Environment:** All using copy services
 - 4 Problem Severity:** High Impact
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- ID# 360865

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HIPER Memory DIMM failure caused loss of access

- 1 Problem Description:** Cluster node recovery caused by failed memory DIMM incorrectly fenced the operational LPAR.
 - 2 Potential Impact of Problem:** Loss of access
 - 3 Environment:** All DS8900F
 - 4 Problem Severity:** HIPER
 - 5 Pervasive Problem:** Yes
 - 6 Release Bundle:** 89.33.35.0
- ID# 361176

0x4143 MLE End-of-chain task timeout

- 1 Problem Description:** While cleaning up a stale relationship on the Metro Mirror secondary, incorrect handling of task locks led to a deadlock condition.
 - 2 Potential Impact of Problem:** Repeated warmstarts
 - 3 Environment:** R9.3 SP2 running Metro/Global Mirror, and using dataset-level RemotePair FlashCopy on MM primary.
 - 4 Problem Severity:** High Impact
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.32.40.0
- ID# 360285

Failure to establish additional PPRC relationships

- 1 Problem Description:** Multi-Target 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. <https://www.ibm.com/support/pages/node/6857809>
 - 2 Potential Impact of Problem:**
 - Unexpected full copy
 - Unable to create Multi-Target relations
 - 3 Environment:** Copy services – See notification link.
 - 4 Problem Severity:** High Impact
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.32.37.0
- ID# 358170

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 Environment:** CKD workloads with HyperSwap
 - 4 Problem Severity:** High Impact
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.32.37.0
- ID# 358897

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Dual LPAR crash

- 1 Problem Description:** PCIe error to a single I/O enclosure caused each LPAR to crash in sequence.
 - 2 Potential Impact of Problem:** Loss of access
 - 3 Environment:** All
 - 4 Problem Severity:** High Impact
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.32.37.0
- ID# 359267

Systems running Safeguarded Copy may experience a loss of access

- 1 Problem Description:** <https://www.ibm.com/support/pages/node/6848877>
 - 2 Potential Impact of Problem:** Loss of access
 - 3 Environment:** DS8900F R9.3 and Safeguarded Copy
 - 4 Problem Severity:** High Impact
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.32.37.0
- ID# 359405

Dual LPAR DSI and reboot

- 1 Problem Description:** Removing volumes from a Global Mirror session, while GMIR resume was in process, exposed a microcode logic error.
 - 2 Potential Impact of Problem:** Loss of access
 - 3 Environment:** All Global Mirror on R9.3
 - 4 Problem Severity:** High Impact
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.31.26.0
- ID# 357975

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 Environment:** All
 - 4 Problem Severity:** High Impact
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.31.26.0
- ID# 357979

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Dual V-RAID adapter failure

- 1 Problem Description:** A failed Flash Drive caused command timeouts on both V-RAID adapters in the pair, leading to a temporary loss of access to the array.
- 2 Potential Impact of Problem:** Loss of access
- 3 Environment:** All HPFE Gen2
- 4 Problem Severity:** High Impact
- 5 Pervasive Problem:** No
- 6 Release Bundle:** 89.31.26.0

ID# 358225

Very long response times caused by failing Flash drive

- 1 Problem Description:** Drive sector reallocations were allowed to take an excessive amount of time before retrying or failing the drive.
- 2 Potential Impact of Problem:** Temporary loss of access
- 3 Environment:** All HPFE Gen2
- 4 Problem Severity:** High Impact
- 5 Pervasive Problem:** No
- 6 Release Bundle:** 89.31.26.0

ID# 358603

XRC session forward time creep

- 1 Problem Description:** In R9 systems, timekeeping based on processor ticks causes a forward time creep, which System Data Mover and XRC software do not handle well. Systems that have extended periods with no updates on any volume in a LCU / SSID may see message ANTX5001E with No Record Found, or Invalid Track Format, and ANTX5104E RC=0901 indicating incorrect data is written to the secondary volume.
- 2 Potential Impact of Problem:** XRC failure.
- 3 Environment:** XRC on R9 systems
- 4 Problem Severity:** High Impact
- 5 Pervasive Problem:** No
- 6 Release Bundle:** 89.31.26.0

ID# 358622

Host Adapter port failed to log back into SAN

- 1 Problem Description:** In conditions where a Host Adapter port is bouncing, the port may fail to log back into the SAN fabric.
- 2 Potential Impact of Problem:** Loss of access
- 3 Environment:** DS8900F Running R9.2 bundles
- 4 Problem Severity:** High Impact
- 5 Pervasive Problem:** No
- 6 Release Bundle:** 89.30.68.0

ID# 355682

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Shutdown while installing a new I/O enclosure pair

- 1 Problem Description:** Enclosure install process failed, leaving the enclosures partially installed. While attempting reinstall, the system saw both enclosures in the pair were unavailable, and performed an emergency shutdown.
 - 2 Potential Impact of Problem:** Loss of access
 - 3 Environment:** Failed I/O enclosure pair MES
 - 4 Problem Severity:** High Impact
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.30.68.0
- ID# 356268, 356279

Potential System Z loss of access on R9.2 code

- 1 Problem Description:** The Asynchronous Status Exchange counter is not properly decremented when asynchronous status events are aborted.
 - 2 Potential Impact of Problem:** loss of access
 - 3 Environment:** System Z hosts on R9.2
 - 4 Problem Severity:** High Impact
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.30.68.0
- ID# 356779

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 Environment:** Systems running TCT with PPRC
 - 4 Problem Severity:** High Impact
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.30.68.0
- ID# 357237

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

Background Copy failed to restart

- 1 Problem Description:** Running FlashCopy, if background copy operations are interrupted by a warmstart, they may fail to restart.
 - 2 Potential Impact of Problem:** FlashCopy fails to complete.
 - 3 Environment:** FlashCopy on 89.32.37 or higher
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.45.0
- ID# 362955

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Unable to view, modify, or create volumes in DS GUI

- 1 Problem Description:** When user clicks on the Volumes, Volumes by Host, Volumes by Pool, or Volumes by LSS pages, GUI shows only a blank screen.
- 2 Potential Impact of Problem:** Unable to create volumes using DS GUI
- 3 Environment:** DS8900F running R9.3 SP3.2 - 89.33.42.0
- 4 Problem Severity:** Moderate
- 5 Pervasive Problem:** Yes
- 6 Release Bundle:** 89.33.45.0

ID# 363776

Enhance Transparent Cloud Tiering request processing

- 1 Problem Description:** Streamline processing of requests for TS7700 containers having large numbers of objects.
- 2 Potential Impact of Problem:** Degraded performance
- 3 Environment:** TCT connected to TS7700
- 4 Problem Severity:** Moderate
- 5 Pervasive Problem:** No
- 6 Release Bundle:** 89.33.42.0

ID# 359635

Transparent Cloud Tiering "500 Internal Server" Error

- 1 Problem Description:** In public and private cloud environments, requests to list objects in a container, or to delete a container, may fail when more than 100K objects exist in the container.
- 2 Potential Impact of Problem:** Unable to list objects, or delete a container.
- 3 Environment:** All Public/Private TCT clouds
- 4 Problem Severity:** Moderate
- 5 Pervasive Problem:** No
- 6 Release Bundle:** 89.33.42.0

ID# 361486

DS GUI Create Volume function failure

- 1 Problem Description:** When defining new FB volumes in DS GUI, using only odd or even pool, the "Save" button is enabled, but does not actually work.
- 2 Potential Impact of Problem:** Unable to create FB volumes using DS GUI
- 3 Environment:** All Open Systems and IBMi
- 4 Problem Severity:** Moderate
- 5 Pervasive Problem:** No
- 6 Release Bundle:** 89.33.42.0

ID# 361744

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Remote Authentication failure after HMC reboot

- 1 Problem Description:** Remote Authentication, (e.g. LDAP, Active Directory), using encrypted bind passwords, may store different crypto keys on each HMC. This can cause Remote Authentication failures, following subsequent HMC reboots,
 - 2 Potential Impact of Problem:** HMC login failures
 - 3 Environment:** All DS8900F using Remote Authentication
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.40.0
- ID# 362469

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 Environment:** Systems using synchronous PPRC
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- ID# 315141

DS CLI 'offloadfiles' command hangs

- 1 Problem Description:** Process hang when using DS CLI to offload PE packages and state save or ODD dumps.
 - 2 Potential Impact of Problem:** Delayed data offload
 - 3 Environment:** All DS8900F
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** Yes
 - 6 Release Bundle:** 89.33.35.0
- ID# 356416

0x7F73 MLE

- 1 Problem Description:** Microcode Logic Error triggered by a Safeguarded Copy check-in task that was allowed to run before the prior check-in for the same LSS had completed it's work.
 - 2 Potential Impact of Problem:** Warmstart
 - 3 Environment:** Systems running Safeguarded Copy
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- ID# 356795

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PPRC suspend while updating to R9.3

- 1 Problem Description:** During code update to a Preserve Mirror secondary which is also a Safeguarded Copy volume, if a Preserve Mirror establish command is issued prior to CCL completing, it may result in suspending the Preserve Mirror.
 - 2 Potential Impact of Problem:** Preserve Mirror suspend
 - 3 Environment:** Systems using Safeguarded Copy
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- ID# 359614

Excessive Global Mirror pause delay

- 1 Problem Description:** In certain scenarios where cache component is required to quiesce a Write Set, code will wait up to 2 minutes for ongoing chains to complete.
 - 2 Potential Impact of Problem:** Degraded Safeguarded Copy performance
 - 3 Environment:** Systems running \geq R9.1 GA
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- ID# 360185

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 Environment:** All DS8900F
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- ID# 360257

LDAP Remote Role Mapping

- 1 Problem Description:** GUI is sending a wrong role to NI for combined role (Logical and Copy Operator) for a group mapping.
 - 2 Potential Impact of Problem:** Cannot complete LDAP configuration
 - 3 Environment:** \geq R9.2 SP2 (89.32.37.0) and LDAP
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- ID# 360738

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Safeguarded Copy out of space

- 1 Problem Description:** When running on R9.3, which supports FlashCopy onto Safeguarded source, and the Customer is not using this function, a slow leakage of Safeguarded capacity space can occur.
 - 2 Potential Impact of Problem:** Safeguarded Copy out of space
 - 3 Environment:** Safeguarded Copy on R9.3 bundles
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- ID# 360968

DS GUI shows incorrect write latency

- 1 Problem Description:** On the Volume Performance pane, the write latency displayed is inconsistent with what is shown for the LSS, or what the host is seeing.
 - 2 Potential Impact of Problem:** Incorrect information
 - 3 Environment:** All
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- ID# 361105

Host Adapter 0x0B8A MLE

- 1 Problem Description:** On HA ports that are experiencing receive errors, multiple Extended Link Service recovery actions may be stacked. HA code may then attempt to process the next ELS before the prior ELS has completed it's work.
 - 2 Potential Impact of Problem:** Warmstart
 - 3 Environment:** Systems with 16Gb or 32Gb Host Adapters.
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** Yes
 - 6 Release Bundle:** 89.32.37.0
- ID# 355331

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 Environment:** Systems running FlashCopy
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.32.37.0
- ID# 355847

IBM System Storage - DS8900F Disk Storage

89.30.x.x Release Notes Cumulative Summary v3.3.6

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 Environment:** Systems running Safeguarded Copy
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.32.37.0
- ID# 356806

Write response time Increase with write cache delays

- 1 Problem Description:** EasyTier may pause migration activity after bandwidth spikes caused by unmap activity, during FlashCopy establish, or Safeguarded Copy roll-off.
 - 2 Potential Impact of Problem:** Degraded performance,
 - 3 Environment:** All using FlashCopy or Safeguarded Copy.
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.32.37.0
- ID# 358475

0x1045 MLE

- 1 Problem Description:** Cache requested prestage with endSector greater than number of sectors in the track.
 - 2 Potential Impact of Problem:** Warmstart
 - 3 Environment:** All
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.32.37.0
- ID# 358574

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:** 89.32.37.0
- ID# 358787

IBM System Storage - DS8900F Disk Storage

89.30.x.x Release Notes Cumulative Summary v3.3.6

Safeguarded Copy out of space

- 1 Problem Description:** Enhancements for Safeguarded Copy Stage/Destage may lead to conditions in which tracks allocated are not returned for usage if the operation fails. More likely to occur when Safeguarded Copy is GM secondary.
- 2 Potential Impact of Problem:** Safeguarded Copy failure
- 3 Environment:** Safeguarded Copy on R9.3
- 4 Problem Severity:** Moderate
- 5 Pervasive Problem:** Yes
- 6 Release Bundle:** 89.32.37.0
ID# 358800

SRC=BE1E2170 TCB deadlock

- 1 Problem Description:** Enhancements for Safeguarded Copy Stage/Destage may lead to a race condition and Task Control Block deadlock while requesting metadata access.
- 2 Potential Impact of Problem:** Warmstart
- 3 Environment:** R9.3 and CKD workloads with Safeguarded Copy
- 4 Problem Severity:** Moderate
- 5 Pervasive Problem:** Yes
- 6 Release Bundle:** 89.32.37.0
ID# 358873

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 Environment:** All Open Systems
- 4 Problem Severity:** Moderate
- 5 Pervasive Problem:** No
- 6 Release Bundle:** 89.32.37.0
ID# 358956

High response time caused by lock contention

- 1 Problem Description:** Thousands of tasks were all trying to suspend the same volume,
- 2 Potential Impact of Problem:** Degraded performance
- 3 Environment:** All PPRC
- 4 Problem Severity:** Moderate
- 5 Pervasive Problem:** No
- 6 Release Bundle:** 89.32.37.0
ID# 359010

IBM System Storage - DS8900F Disk Storage

89.30.x.x Release Notes Cumulative Summary v3.3.6

Encryption re-key failed with CMUN81370E

- 1 Problem Description:** Re-key from Gemalto KeySecure to Thales CipherTrust failed because code did not properly recognize Thales CipherTrust.
 - 2 Potential Impact of Problem:** Re-key failure
 - 3 Environment:** All
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.32.37.0
- ID# 359032

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 Environment:** All Global Mirror since R8.5 GA
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.32.37.0
- ID# 359215

0x2544 MLE

- 1 Problem Description:** Unusual order of operations leads to a counter going negative during staging of a track.
 - 2 Potential Impact of Problem:** Warmstart
 - 3 Environment:** All
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.32.37.0
- ID# 359276

HMCs accessing root DNS servers after update to R9.3

- 1 Problem Description:** HMCs trying to access external servers because new base code implemented unbound-anchor.timer.
 - 2 Potential Impact of Problem:** Security exposure
 - 3 Environment:** All R9.3
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.32.37.0
- ID# 359368

IBM System Storage - DS8900F Disk Storage

89.30.x.x Release Notes Cumulative Summary v3.3.6

0x1810/0x1811 MLE

- 1 Problem Description:** During destage in write-through path, daArea in the Cache Directory Control Block was not cleared.
 - 2 Potential Impact of Problem:** Warmstart
 - 3 Environment:** All
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.32.37.0
- ID# 359647

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 Environment:** CSM-managed PPRC
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.32.37.0
- ID# 359691

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 Environment:** Safeguarded XRC primary
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.31.26.0
- ID# 356451

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 Environment:** Systems running PPRC
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.31.26.0
- ID# 356680

IBM System Storage - DS8900F Disk Storage

89.30.x.x Release Notes Cumulative Summary v3.3.6

Incorrect DS GUI display

- 1 Problem Description:** GUI is showing incorrect information for thin-provisioned Safeguarded Copy volumes.
 - 2 Potential Impact of Problem:** Incorrect graphs
 - 3 Environment:** Systems using Safeguarded Copy
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.31.26.0
- ID# 357411

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 Environment:** All
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.31.26.0
- ID# 357800

Short performance impact while taking a hot spare drive

- 1 Problem Description:** When taking a hot spare, a format process is taking the adapter out of performance mode.
 - 2 Potential Impact of Problem:** Degraded performance
 - 3 Environment:** All HPFE Gen2
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.31.26.0
- ID# 358259

HMC timezone reverted to UTC during CDA

- 1 Problem Description:** During a CDA upgrade (Transformation) the HMC timezone was not restored.
 - 2 Potential Impact of Problem:** Extended service action
 - 3 Environment:** R9.2 transformation from 9.0 or 9.1
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.31.26.0
- ID# 358398

IBM System Storage - DS8900F Disk Storage

89.30.x.x Release Notes Cumulative Summary v3.3.6

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 Environment:** Two occurrences since R7.2 GA
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.31.26.0
- ID# 358424

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 Environment:**
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.31.26.0
- ID# 358541

During CDA upgrade, HMC not available after reboot

- 1 Problem Description:** During HMC upgrade (Transformation), HMC WUI is unavailable for an extended time after reboot. First-Time Data Capture fix.
 - 2 Potential Impact of Problem:** Extended service action
 - 3 Environment:** R9.2 transformation from 9.0 or 9.1
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** Yes
 - 6 Release Bundle:** 89.31.26.0
- ID# 358656

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 Environment:** Systems with 16Gb or 32Gb Host Adapters
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** Yes
 - 6 Release Bundle:** 89.31.26.0
- ID# 359049

IBM System Storage - DS8900F Disk Storage

89.30.x.x Release Notes Cumulative Summary v3.3.6

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 Environment:** DS CLI below 7.9.30.154, and Windows 2019 Server.
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** Yes
 - 6 Release Bundle:** 89.30.68.0
- 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 Environment:** Systems running PPRC.
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.30.68.0
- ID# 354123

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 Environment:** I/O enclosure upgrade and \geq R8.3 GA
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.30.68.0
- 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 Environment:** TCT using out-of-band communication path
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** Yes
 - 6 Release Bundle:** 89.30.68.0
- ID# 355658

IBM System Storage - DS8900F Disk Storage

89.30.x.x Release Notes Cumulative Summary v3.3.6

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 Environment:** SGC volume expansion support, $\geq R9.1$ GA.
- 4 Problem Severity:** Moderate
- 5 Pervasive Problem:** No
- 6 Release Bundle:** 89.30.68.0

ID# 355724

Expansion frame install failed

- 1 Problem Description:** Expansion frame iPDU install process fails if the base frame has only one iPDU pair.
- 2 Potential Impact of Problem:** Extended service action
- 3 Environment:** Expansion frame install, and $\geq R9.1$ SP2
- 4 Problem Severity:** Moderate
- 5 Pervasive Problem:** Yes
- 6 Release Bundle:** 89.30.68.0

ID# 355972

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:** Degraded performance
- 3 Environment:** Creating SGC recovery volume(s)
- 4 Problem Severity:** Moderate
- 5 Pervasive Problem:** No
- 6 Release Bundle:** 89.30.68.0

ID# 356293

License key file missing on one LPAR

- 1 Problem Description:** Code update suspended because of a LIC feature miscompare
- 2 Potential Impact of Problem:** Extended service action
- 3 Environment:** Base code, discovered by CDA process
- 4 Problem Severity:** Moderate
- 5 Pervasive Problem:** No
- 6 Release Bundle:** 89.30.68.0

ID# 356443

IBM System Storage - DS8900F Disk Storage

89.30.x.x Release Notes Cumulative Summary v3.3.6

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 Environment:** Systems running PPRC
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** Yes
 - 6 Release Bundle:** 89.30.68.0
- ID# 356488

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 Environment:** Safeguarded Copy with FlashCopy from the same source.
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.30.68.0
- ID# 356572

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 Environment:** Systems running PPRC
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.30.68.0
- 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 Environment:** Customer SAN
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** Yes
 - 6 Release Bundle:** 89.30.68.0
- ID# 356719

IBM System Storage - DS8900F Disk Storage

89.30.x.x Release Notes Cumulative Summary v3.3.6

0x1C63 MLE during LIC bundle upgrade

- 1 Problem Description:** Timing window exists while one LPAR is upgraded, where a space release operation may fail with "try later" sense, resulting in a microcode logic error.
 - 2 Potential Impact of Problem:** Warmstart,
 - 3 Environment:** R9.0, R9.1 upgrade to R9.2
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.30.68.0
- ID# 356725

LDAP user login with no access

- 1 Problem Description:** Ungrouped users with Administrator role do not have administrator access (First-time data capture)
 - 2 Potential Impact of Problem:** Unable to perform admin tasks
 - 3 Environment:** R9.x native LDAP, ungrouped users
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.30.68.0
- ID# 356810

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 Environment:** All
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** Yes
 - 6 Release Bundle:** 89.30.68.0
- 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 CSM communication
 - 3 Environment:** Systems running Global Mirror
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.30.68.0
- ID# 357038

IBM System Storage - DS8900F Disk Storage

89.30.x.x Release Notes Cumulative Summary v3.3.6

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 Environment:** Systems using FlashCopy
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.30.68.0
- ID# 357074

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 Environment:** Systems running Global Mirror
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.30.68.0
- 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 Environment:** Systems running TCT with Global Mirror
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.30.68.0
- ID# 357240

TCT failed after LIC bundle upgrade to R9.2

- 1 Problem Description:** In R9.2, with multicloud support, all clouds must have their names in lowercase. Existing clouds with upper or mixed case names, must be recreated with lowercase.
 - 2 Potential Impact of Problem:** Loss of TCT function
 - 3 Environment:** Systems running TCT on R9.2 or higher
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** Yes
 - 6 Release Bundle:** 89.30.68.0
- ID# 357494

IBM System Storage - DS8900F Disk Storage

89.30.x.x Release Notes Cumulative Summary v3.3.6

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 Environment:** Systems running PPRC
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.30.68.0
- ID# 357564

0x1C5A MLE while creating a new volume

- 1 Problem Description:** While a new volume was being created, an unrelated warmstart opened a timing window where an extent scan attempted to process the incomplete volume.
 - 2 Potential Impact of Problem:** Repeated Warmstart, single LPAR reboot
 - 3 Environment:** R9.2 and standard volume creation
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.30.68.0
- ID# 357675

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 Environment:** PPRC and R9.2 SP1.x
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.30.68.0
- ID# 357676

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 Environment:** Systems running R9.2 and Safeguarded Copy
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.30.68.0
- ID# 357911

IBM System Storage - DS8900F Disk Storage

89.30.x.x Release Notes Cumulative Summary v3.3.6

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 Environment:** R9.1 SP3 and R9.2 systems running PPRC
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.30.68.0
- ID# 358023

CPC dual hard drive reload failure

- 1 Problem Description:** Process to reload CPC hard drives from HMC failed to correctly identify the LPAR MAC addresses
 - 2 Potential Impact of Problem:** Extended service action
 - 3 Environment:** Systems running R9.2
 - 4 Problem Severity:** Moderate
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.30.68.0
- ID# 358271

Service: A recoverable error, Service improvements

Missing zHyperLinks in DS GUI

- 1 Problem Description:** When connecting zHyperLinks, DS GUI may miss the event notification. Fix provided to periodically harvest the zHyperLinks.
 - 2 Potential Impact of Problem:** Unable to monitor or configure zHyperLink
 - 3 Environment:** Systems using zHyperLink
 - 4 Problem Severity:** Service
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- ID# 353671

System Summary lists incorrect CKD capacity

- 1 Problem Description:** DS GUI incorrectly calculates the TiB capacity of volumes configured for System Z.
 - 2 Potential Impact of Problem:** None
 - 3 Environment:** Systems \geq R9.1 using CKD volumes
 - 4 Problem Severity:** Service
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- ID# 355837

IBM System Storage - DS8900F Disk Storage

89.30.x.x Release Notes Cumulative Summary v3.3.6

False BED13xxx Management Enclosure fan errors

- 1 Problem Description:** Fans are being called out for replacement when only one enclosure power supply detects a transient error.
 - 2 Potential Impact of Problem:** Extended service action
 - 3 Environment:** All DS8900F systems
 - 4 Problem Severity:** Service
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- ID# 359440

DS GUI Dashboard missing "Used Capacity" bar for CKD

- 1 Problem Description:** When HMC is configured for French language, the dashboard shows Used Capacity for FB storage, but the CKD bar is missing.
 - 2 Potential Impact of Problem:** Usability
 - 3 Environment:** Customers using Firefox browser
 - 4 Problem Severity:** Service
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- ID# 359528

DS GUI progress bar shows incorrect free space

- 1 Problem Description:** Progress bar is not showing correct free space when more than 1000 TiB free space exists for CKD.
 - 2 Potential Impact of Problem:** Incorrect System Summary page
 - 3 Environment:** \geq R9.3
 - 4 Problem Severity:** Service
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- ID# 359651

Missing export icon

- 1 Problem Description:** Export button on the DS GUI Dashboard can not be seen by some Customer user roles. This change will provide export capability to all user roles
 - 2 Potential Impact of Problem:** Unable to export from HMC
 - 3 Environment:** All DS8900F
 - 4 Problem Severity:** Service
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- ID# 361104

IBM System Storage - DS8900F Disk Storage

89.30.x.x Release Notes Cumulative Summary v3.3.6

Host Adapter communication timeout

- 1 Problem Description:** After performing a single-port wrap test, an internal flag is left in the wrong state, which causes no operational problem, but will cause adapter timeout during actions that perform a warmstart or failover.
 - 2 Potential Impact of Problem:** Extended recovery during warmstart or failover.
 - 3 Environment:** All DS8900F running R9.3
 - 4 Problem Severity:** Service
 - 5 Pervasive Problem:** Yes
 - 6 Release Bundle:** 89.32.37.0
- ID# 351511

0x02B7 MLE

- 1 Problem Description:** Last track in the Track ID list is very busy, with many tasks vying for access. This can lead to task timeouts while trying to obtain a lock.
 - 2 Potential Impact of Problem:** ODD Dump
 - 3 Environment:** All
 - 4 Problem Severity:** Service
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.32.37.0
- ID# 358171

CPC Hard Drive Rebuild failure

- 1 Problem Description:** Lpar failed to join peer domain during HDR process.
 - 2 Potential Impact of Problem:** Extended service action.
 - 3 Environment:** All
 - 4 Problem Severity:** Service
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.32.37.0
- ID# 358326

PPRC path failure reason is not shown

- 1 Problem Description:** In DS GUI, the reason for PPRC path failures is not being shown.
 - 2 Potential Impact of Problem:** Extended service action
 - 3 Environment:** All using PPRC and DS GUI
 - 4 Problem Severity:** Service
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.32.37.0
- ID# 359245

IBM System Storage - DS8900F Disk Storage

89.30.x.x Release Notes Cumulative Summary v3.3.6

Cluster PCIe repair failure

- 1 Problem Description:** Cluster PCIe card replacement failed to complete; required development support because P1 planar was not included in the FRU list.
 - 2 Potential Impact of Problem:** Extended service action
 - 3 Environment:** All R9 systems
 - 4 Problem Severity:** Service
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.31.26.0
- ID# 358494

GUI reports "unknown" state on processor nodes

- 1 Problem Description:** After code update and HMC reboot, DS GUI reports "unknown" for processor nodes and/or other entities in the rack view. First-Time Data Capture fix.
 - 2 Potential Impact of Problem:** Wrong GUI status
 - 3 Environment:** All R8.5 and R9.x
 - 4 Problem Severity:** Service
 - 5 Pervasive Problem:** Yes
 - 6 Release Bundle:** 89.31.26.0
- ID# 358497

AOS remote access failing on R9.3 systems

- 1 Problem Description:** Assist OnSite remote access via Windows is failing on R9.3 systems because of unexpected packets being sent during login.
 - 2 Potential Impact of Problem:** Extended service action
 - 3 Environment:** R9.3 and Windows AOS clients and/or "jump" servers.
 - 4 Problem Severity:** Service
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.31.26.0
- ID# 359001

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 Environment:** REST API
 - 4 Problem Severity:** Service
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.30.68.0
- ID# 356383

IBM System Storage - DS8900F Disk Storage

89.30.x.x Release Notes Cumulative Summary v3.3.6

Storage enclosure ESM repair required next level assistance

- 1 **Problem Description:** Enclosure services module repair requires both VRAID adapters in the pair to be online, but the failure caused one VRAID adapter to be fenced.
 - 2 **Potential Impact of Problem:** Extended service action
 - 3 **Environment:** High Performance Flash Enclosure Gen2
 - 4 **Problem Severity:** Service
 - 5 **Pervasive Problem:** No
 - 6 **Release Bundle:** 89.30.68.0
- ID# 356650, 356658

Managed system connections lost after internal IP change

- 1 **Problem Description:** HMC1 was unable to communicate over the service processor connections to the CPCs
 - 2 **Potential Impact of Problem:** Extended service action
 - 3 **Environment:** Systems running R9.2 SP1
 - 4 **Problem Severity:** Service
 - 5 **Pervasive Problem:** No
 - 6 **Release Bundle:** 89.30.68.0
- ID# 357867

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 **Environment:** Systems using zHyperLink
 - 4 **Problem Severity:** Improvement
 - 5 **Pervasive Problem:** No
 - 6 **Release Bundle:** 89.33.35.0
- 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 **Environment:** Systems using PPRC
 - 4 **Problem Severity:** Improvement
 - 5 **Pervasive Problem:** No
 - 6 **Release Bundle:** 89.33.35.0
- ID# 359018

IBM System Storage - DS8900F Disk Storage

89.30.x.x Release Notes Cumulative Summary v3.3.6

Reduction of Host Adapter-triggered warmstarts

- 1 Problem Description:** Design change to handle common recoverable errors without invoking warmstart.
 - 2 Potential Impact of Problem:** None
 - 3 Environment:** Systems with 32Gb Host Adapters
 - 4 Problem Severity:** Improvement
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- ID# 359819

Disable weak cipher suites

- 1 Problem Description:** Security scans complain about the presence of weak ciphers.
 - 2 Potential Impact of Problem:** None
 - 3 Environment:** All DS8900F
 - 4 Problem Severity:** Improvement
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- ID# 360399

EasyTier enhancement

- 1 Problem Description:** Additional changes to treat volume unmap activity separately, so as not to appear as a bandwidth spike.
 - 2 Potential Impact of Problem:** Degraded performance
 - 3 Environment:** All DS8900F
 - 4 Problem Severity:** Improvement
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- ID# 360460

Safeguarded Recovery performance enhancements

- 1 Problem Description:** None
 - 2 Potential Impact of Problem:** None
 - 3 Environment:** DS8900F and Safeguarded Copy
 - 4 Problem Severity:** Improvement
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.33.35.0
- ID# 360744

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 Environment:** Systems running PPRC
 - 4 Problem Severity:** Improvement
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.32.37.0
- ID# 357731

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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 Environment:** Systems running FlashCopy
 - 4 Problem Severity:** Improvement
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.32.37.0
- ID# 358054

Host Adapter recovery enhancement

- 1 Problem Description:** Enhance recovery routines to perform a power cycle of the adapter.
 - 2 Potential Impact of Problem:** None
 - 3 Environment:** All
 - 4 Problem Severity:** Improvement
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.32.37.0
- ID# 358674

Remove ODDs from warmstart notification

- 1 Problem Description:** Non-disruptive ODD Dumps should not trigger warmstart notifications.
 - 2 Potential Impact of Problem:** None
 - 3 Environment:** All
 - 4 Problem Severity:** Improvement
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.32.37.0
- ID# 359318

Improve FlashCopy recovery

- 1 Problem Description:** Implement FTDC to collect good data and clear the troubled state
 - 2 Potential Impact of Problem:** None
 - 3 Environment:** All FlashCopy
 - 4 Problem Severity:** Improvement
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.32.37.0
- ID# 359358

Host Adapter First-Time Data Capture

- 1 Problem Description:** FTDC - Detect possible buffer leakage in FICON microcode
 - 2 Potential Impact of Problem:** None
 - 3 Environment:** All CKD
 - 4 Problem Severity:** Improvement
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.32.37.0
- ID# 359432

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Improve logging for HMC login failures

- 1 Problem Description:** After bundle updates, HMC login may require an additional HMC reboot.
 - 2 Potential Impact of Problem:** HMC login fails
 - 3 Environment:** R9.3
 - 4 Problem Severity:** Improvement
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.31.26.0
- ID# 358527

DS CLI 'fcshowlinkcounts' improvement

- 1 Problem Description:** Update 'fcshowlinkcounts' to:
 - add a '-c' option to request output in Comma Separated Value format
 - add a '-f filename' option to allow the user to specify an input file
 - 2 Potential Impact of Problem:** None
 - 3 Environment:** All R9.3
 - 4 Problem Severity:** Improvement
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.31.26.0
- ID# 358555

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 Environment:** All R8 and R9
 - 4 Problem Severity:** Improvement
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.31.26.0
- ID# 358759

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 Environment:** SCSI-FCP hosts
 - 4 Problem Severity:** Improvement
 - 5 Pervasive Problem:** No
 - 6 Release Bundle:** 89.30.68.0
- ID# 356553

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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 Environment:** All
- 4 Problem Severity:** Improvement
- 5 Pervasive Problem:** No
- 6 Release Bundle:** 89.30.68.0

ID# 356924

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