

IBM System Storage - DS8900F Disk Storage **Microcode Bundle 89.21.28.0 Release Note Information**

Release Date: November 19, 2021

VRMF Level Data Results:

VRMF level From:	89.20.147.0
VRMF Level To:	89.21.28.0
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
89.21.28.0	7.9.21.80	7.9.21.80	7.9.21.80	5.9.21.1028	6.3.1

Overview of new features and functions supported by this release on DS8900F 533x models 993/994/996/998

At a glance:

- Code fixes

This new microcode release supports DS8900F systems only.

Select Modifications Included in this Release Note:

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

Definition of Problem Severity:

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.

Potential data loss exposure in RAID-10 arrays

- 1 Problem Description:** Testing and code review have discovered a path that could lead to sequence number errors, corrupt parity, and adapter unit checks in RAID-10 arrays.
- 2 Potential Impact of Problem:** loss of data
- 3 Problem Severity:** High Impact
- 4 Pervasive Problem:** No

ID# 355852

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

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

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

ID# 355247

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

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

ID# 356136

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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

ID# 356210

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

Unable to login to HMC1 WUI or DS GUI

- 1 Problem Description:** Network congestion caused KMIP periodic key retrieval requests to stack up in LPAR ESS01
- 2 Potential Impact of Problem:** HMC login failure
- 3 Problem Severity:** Moderate
- 4 Pervasive Problem:** Yes

ID# 350903

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

ID# 351936

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

ID# 346977

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

ID# 351371

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Unable to process encryption recovery key

- 1 Problem Description:** Recovery key processing requires two different user logins. During this time, the recovery key state may be overwritten by a periodic key retrieval attempt.
- 2 Potential Impact of Problem:** Extended recovery duration
- 3 Problem Severity:** Moderate
- 4 Pervasive Problem:** No

ID# 352788

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

ID# 353497

0x27B0 MLE

- 1 Problem Description:** Copy Services stage processing encountered a CKD track with invalid metadata.
- 2 Potential Impact of Problem:** Warmstart
- 3 Problem Severity:** Moderate
- 4 Pervasive Problem:** No

ID# 354396

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

ID# 354451

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

ID# 354883

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

ID# 355210

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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
- ID# 355321

Query SafeGuarded Copy Relations command failure

- 1 Problem Description:** When processing SafeGuarded LSS relation query, command is only using the first 32 bytes of parameter data.
 - 2 Potential Impact of Problem:** degraded performance
 - 3 Problem Severity:** Moderate
 - 4 Pervasive Problem:** No
- ID# 355403

TCT authentication fails with malformed header

- 1 Problem Description:** Transparent Cloud Tiering MCstore libraries have compatibility issues connecting to some services from outside the US.
 - 2 Potential Impact of Problem:** Migration failure
 - 3 Problem Severity:** Moderate
 - 4 Pervasive Problem:** No
- ID# 355447

DS GUI performance bandwidth graphs incorrect

- 1 Problem Description:** GUI is using the wrong formula to calculate bandwidth intervals
 - 2 Potential Impact of Problem:** none
 - 3 Problem Severity:** Moderate
 - 4 Pervasive Problem:** No
- ID# 355530

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
- ID# 355659

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
- ID# 355776

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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

ID# 356046

Service: A recoverable error, Service improvements

CMUN02745E mkkeygrp failed

- 1 Problem Description:** While configuring KMIP key group, key server returned CTGKM3425E message, which was mishandled by Device Adapter code.
- 2 Potential Impact of Problem:** KMIP configuration failure
- 3 Problem Severity:** Service
- 4 Pervasive Problem:** No

ID# 353418

DS GUI could not change callhome settings

- 1 Problem Description:** ESSNI communications failed because of missing Resource Manager HMC attribute values.
- 2 Potential Impact of Problem:** none
- 3 Problem Severity:** Service
- 4 Pervasive Problem:** No

ID# 353640

No FRU callout for SRC=BEB30009

- 1 Problem Description:** Serviceable event did not indicate which memory DIMM was failing.
- 2 Potential Impact of Problem:** Delayed repair action
- 3 Problem Severity:** Service
- 4 Pervasive Problem:** No

ID# 354582

Java exception error on first login after HMC reboot

- 1 Problem Description:** After HMC reboot, DS GUI will accept a login before Resource Managers are fully initialized, causing a Java exception. Subsequent login attempts are successful.
- 2 Potential Impact of Problem:** none
- 3 Problem Severity:** Service
- 4 Pervasive Problem:** No

ID# 354799

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DSCLI 'showsu' command shows incorrect performance data

- 1 Problem Description:** When stats are collected, they are being added to previous values, but never reset to zero first.
- 2 Potential Impact of Problem:** none
- 3 Problem Severity:** Service
- 4 Pervasive Problem:** No

ID# 355041

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

ID# 355218

HMC grey screen when swapping monitor between HMCs

- 1 Problem Description:** HMC hotplug monitor support contains incorrect definitions for some types of monitors.
- 2 Potential Impact of Problem:** none
- 3 Problem Severity:** Service
- 4 Pervasive Problem:** No

ID# 355344

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

ID# 355394

iPDU activation failure reports wrong iPDU

- 1 Problem Description:** Errors during iPDU FRU replacement report against pdu23, even if it doesn't exist.
- 2 Potential Impact of Problem:** none
- 3 Problem Severity:** Service
- 4 Pervasive Problem:** No

ID# 355498

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

ID# 355524

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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

ID# 355626

Unable to access DS GUI after changing authentication policy

- 1 Problem Description:** A missing file causes GUI to attempt to fill cache with information from all supported policies, even when they are not active
- 2 Potential Impact of Problem:** HMC login failure
- 3 Problem Severity:** Service
- 4 Pervasive Problem:** No

ID# 355691

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

ID# 355714

DSCLI 'showmir' 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

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

ID# 355720

iPDU MES wrong IP address in Resource Manager

- 1 Problem Description:** In systems using the alternate '192' address range, an insufficient variable size causes the IP address to be truncated in the RM object
- 2 Potential Impact of Problem:** MES failure
- 3 Problem Severity:** Service
- 4 Pervasive Problem:** No

ID# 355842

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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

ID# 356089

Improvements: Improvements for better usability

None.

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