

IBM System Storage DS8870 Disk Storage

87.40.x.x Release Notes Cumulative Summary v5.1

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Date: March 15, 2016

VRMF Level Data Results:

VRMF level From:	87.40.140.0
VRMF Level To:	87.41.44.0
Report for:	DS8870

Code Bundle Contents

DS8000 Code Bundle	SEA or LMC	DSCLI Client	STAT Tool	Easy Tier Client	Heat Map Transfer Utility	Storage Manager Code Level
87.41.44.0	7.7.41.180	7.7.41.180	7.7.41.180	7.7.41.180	7.7.41.180	5.7.41.1042
87.41.42.0	7.7.41.132	7.7.41.132	7.7.41.132	7.7.41.132	7.7.41.132	5.7.41.1039
87.41.32.0	7.7.41.108	7.7.41.108	7.7.41.108	7.7.41.108	7.7.41.108	5.7.41.1028
87.41.31.0	7.7.41.103	7.7.41.103	7.7.41.103	7.7.41.103	7.7.41.103	5.7.41.1028
87.41.17.0	7.7.41.50	7.7.41.50	7.7.41.50	7.7.41.50	7.7.41.50	5.7.41.1015
87.41.9.0	7.7.41.34	7.7.41.34	7.7.41.34	7.7.41.34	7.7.41.34	5.7.41.1009
87.41.8.0	7.7.41.32	7.7.41.32	7.7.41.32	7.7.41.32	7.7.41.32	5.7.401.1008
87.40.141.0	7.7.40.364	7.7.40.364	7.7.40.364	7.7.40.364	7.7.40.364	5.7.40.1303
87.40.140.0	7.7.40.362	7.7.40.362	7.7.40.362	7.7.40.362	7.7.40.362	5.7.40.1302

This is a summary of the fixes in the R7.4 microcode releases.

Select Modifications Included in this Release Note:

This is a list of some modifications contained across one or more LIC levels (License Internal Code) or microcode release(s). The potential impact is variable. Specific environments may aggravate or degrade the potential impact.

Problem(s) reported in this release note may not be in higher levels of code bundles.

Definition of Problem Severity:

- 1 High Impact** - Acute: An irrecoverable error with potential loss of data.
- Serious: An irrecoverable error with potential loss of access to data.
- 2 Moderate** - A function not operational and/or performance might be degraded.
- 3 Service** - A recoverable error (no impact) and service improvements.
- 4 Improvements** - Improvement changes for better Usability and Serviceability.

HIPER: High Impact problem that is Pervasive: 3 or more occurrences

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Acute: An irrecoverable error with potential loss of data.

Error in GM collision handling

1. **Problem Description:** A microcode logic error handling a GM collision may result in 0x7618 MLE, or incomplete data sent to secondary, depending on timing.
 2. **Potential Impact of Problem:** Warmstart, or corrupted consistency group
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.31.0
- ID#: 303510

Provide new warning when replacing DDMs in an offline array

1. **Problem Description:** SSR may replace a DDM that is needed to recover an offline array.
 2. **Potential Impact of Problem:** Extended loss of access, or loss of data
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.31.0
- ID#: 305037

Enable PCIe ECRC checking for High Performance Flash

1. **Problem Description:** End-to-end PCIe ECRC checking was disabled.
 2. **Potential Impact of Problem:** loss of data
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.31.0
- ID#: 309255

Failing DDM was not rejected

1. **Problem Description:** Failed DDM is not rejected when Device Adapter is in takeover state.
 2. **Potential Impact of Problem:** loss of data
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.31.0
- ID#: 309406

0x7178 MLE, SEFLC target volume in failed state

1. **Problem Description:** Track-Space-Efficient secondary volumes in failed state because of a microcode logic error
 2. **Potential Impact of Problem:** loss of data
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.17.0
- ID#: 303700

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VRAID adapter parity error detection

1. **Problem Description:** Parity errors in metadata or unused areas of flash arrays are not properly processed by VRAID adapters, and will not open a serviceable event. This problem can lead to loss of access, and/or loss of data.
 2. **Potential Impact of Problem:** loss of data
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.17.0
- ID#: 305245

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

HIPER Track Format Descriptor mismatch

1. **Problem Description:** Improper setting of flags leads to corruption of the modified sector bitmap.
 2. **Potential Impact of Problem:** Global Mirror suspend
 3. **Problem Severity:** HIPER
 4. **Pervasive Problem:** Yes
 5. **Release Bundle:** 87.41.44.0
- ID#: 312882

HIPER Track Format Descriptor mismatch on PPRC secondary volume

1. **Problem Description:** A format write command encountered a TFD mismatch on the secondary volume, because out-of-sync bitmap was incorrect.
 2. **Potential Impact of Problem:** PPRC suspend, can also trigger GDPS to Hyperswap.
 3. **Problem Severity:** HIPER
 4. **Pervasive Problem:** Yes
 5. **Release Bundle:** 87.41.42.0
- ID#: 275313

Array offline after SMRB abort

1. **Problem Description:** Source DDM hang during smart rebuild caused the DDM to be rejected from the smart rebuild array, but not from the parent RAID-5 array, causing ~10 second LoA.
 2. **Potential Impact of Problem:** Loss of access
 3. **Problem Severity:** Serious
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.42.0
- ID#: 289158

LPAR timezone incorrectly set to 'null'

1. **Problem Description:** null timezone can cause a failure in some error log analysis routines, resulting in problems going unreported.
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.42.0
- ID#: 307696

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HIPER Host adapter 0x4B0E MLE

1. **Problem Description:** zHPF workload was transferring a long chain of small records. The DS8K split the transfer into two DMAs, exposing a problem with the calculation for notAlignedBytes.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 87.41.42.0

ID#: 308467

DC-UPS internal fence incorrectly cleared

1. **Problem Description:** During DC-UPS repair, all partner power cables were not verified before clearing DC-UPS internal fence.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 87.41.42.0

ID#: 309660

HIPER Cluster hang during failover

1. **Problem Description:** When cluster failover is preceded by quickstart, the 'surviving' cluster fails to get the statesave lock, causing it to hang in "Cluster Failover" state.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 87.41.32.0

ID#: 308404

HIPER I/O timeout during failed DDM deconfigure

1. **Problem Description:** Operation in process hangs because the DDM is unresponsive, thus preventing quiesce of the DDM.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 87.41.31.0

ID#: 298041

HIPER Loop errors caused multiple DDM rejections

1. **Problem Description:** Degraded loop led to array members being marked 'Security Degraded', which then caused them to be rejected from the array.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 87.41.31.0

ID#: 303528

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MLE during dynamic HCD changes

1. **Problem Description:** A microcode error may allow processing of zHPF I/O without first obtaining an SMP lock.
2. **Potential Impact of Problem:** Repeated warmstarts
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 87.41.31.0

ID#: 304265

Persistent false HPFE error indication

1. **Problem Description:** High Performance Flash Enclosure surfaced a false error, that could not be cleared.
2. **Potential Impact of Problem:** Disruptive repair
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 87.41.31.0

ID#: 304850

CRC errors cause fenced VRA pair

1. **Problem Description:** V-RAID adapter pair was fenced after multiple unit checks caused by bad CRC from one of the RAID managers
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 87.41.31.0

ID#: 305143

Prevent multi-target PPRC if partner does not have support

1. **Problem Description:** System with MTPPRC was able to establish multi-target relationship with secondary that did not have MTPPRC support.
2. **Potential Impact of Problem:** Dual reboot
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 87.41.31.0

ID#: 305631

Remote FlashCopy failure

1. **Problem Description:** During CDA, existing PreserveMirror FlashCopy relationships failed with msg ADR935W. Problem affects incremental PMFLC relationships, when updating to r7.4 levels, from a pre-7.4 level.
2. **Potential Impact of Problem:** Flashcopy failure
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 87.41.31.0

ID#: 307524

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Cache segment depletion in systems with 16GB system memory

1. **Problem Description:** Too many tracks are being kept on CPU queues, in proportion to the available cache.
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.31.0
- ID#: 308476

Loss of access during CDA when repository size > 50TiB

1. **Problem Description:** Insufficient metadata table space for repositories > 50TiB, but this limit was not enforced.
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.17.0
- ID#: 295123

Repeated 0xE716 MLE after failover

1. **Problem Description:** NVS data for the failed CEC was being processed, which should have been cleared.
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.17.0
- ID#: 301554

HIPER Cache segment depletion

1. **Problem Description:** A performance enhancement introduced in r7.4 has a problem that causes gradual depletion of available cache memory segments. Eventually, there are no segments available, causing a loss of access. This exposure exists in all r7.4 levels since pre-GA.
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** HIPER
 4. **Pervasive Problem:** Yes
 5. **Release Bundle:** 87.41.9.0
- ID#: 303797

HIPER LUN ID change when remapping host ports in new GUI

1. **Problem Description:** New GUI in r7.4 may require conversion of host port mapping. During this process, new volume groups are created for host connections, and existing volumes are added. A microcode error caused some LUN IDs to change during the remap. Affects hosts that use SCSI LUN Mapping, but do not support 'Report LUNs'
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** HIPER
 4. **Pervasive Problem:** Yes
 5. **Release Bundle:** 87.41.8.0
- ID#: 302368

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Re-use volume group of host port during reconfig for new GUI

1. **Problem Description:** The port group and volume group modification for new GUI may change volume group assignments, breaking existing DSCLI scripts.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 87.41.8.0

ID#: 302876

HIPER Volumes suspended after Hyperswap

1. **Problem Description:** DA has a race condition from the master CEC when setting and resetting the Soft Fence Pending flags on the remote owning CEC. This will leave volumes in a soft fence condition.
2. **Potential Impact of Problem:** Hyperswap failure/Loss of Access
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 87.41.8.0

ID#: 302939

FlashCopy with FRR set can encounter microcode logic error 0x7002

1. **Problem Description:** Release 7.4 introduced a change to copy services that can result in an invalid timestamp being detected, this error can cause a dual cluster reboot.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 87.40.141.0

ID#: 303112

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

0x7D13 MLE

1. **Problem Description:** A function that checks for out-of-sync track bitmap corruption, caused an out-of-order locking exception
2. **Potential Impact of Problem:** Warmstart
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 87.41.44.0

ID#: 302086

Long global mirror RPO times

1. **Problem Description:** Changes made for Multi-Target PPRC support exposed a microcode logic error that results in delays forming consistency groups. This can be seen most often when a large number of volumes have low activity.
2. **Potential Impact of Problem:** Increased RPO
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 87.41.44.0

ID#: 309360

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Cross-cluster DMA failure during cluster resume

1. **Problem Description:** When a failover is caused by a PCIe fabric error, the I/O bay is recovered during the failover but the cross-cluster DMA engine is not properly cleaned up. This causes a failure when we attempt to use the bay during resume to dual cluster.
 2. **Potential Impact of Problem:** Extended service action
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** Yes
 5. **Release Bundle:** 87.41.42.0
- ID#: 284229

Improve Easy Tier random vs sequential calculations

1. **Problem Description:** Easy Tier may promote hot extents based on total IOPS, that may not be the best candidates for SSD or flash.
 2. **Potential Impact of Problem:** degraded performance
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.42.0
- ID#: 304652

'Refresh Cache' message in DS GUI

1. **Problem Description:** After logging into DS GUI on systems with a large number of volumes, a GUI cache refresh process may run for an extended period, preventing use of the DS GUI until the refresh finishes.
 2. **Potential Impact of Problem:** Unable to manage the storage
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** Yes
 5. **Release Bundle:** 87.41.42.0
- ID#: 305188

HA port offline, logs false SRC=BE9C7890

1. **Problem Description:** Host Adapter port online process may take longer than the time allotted.
 2. **Potential Impact of Problem:** loss of pathnone
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.42.0
- ID#: 309118

0x27CA MLE

1. **Problem Description:** Metadata mismatch on track 0 causes warmstart. Behavior will change to do On Demand Dump instead.
 2. **Potential Impact of Problem:** Warmstart
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.42.0
- ID#: 309992

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Host Adapter Virtual Command Ring too small

1. **Problem Description:** Running large read I/O chains, the channel detects missing IUs from the control unit via IUCount mismatches. The CU is not sending all the IUs it says it is, because the VCR (virtual command ring) has become full.
 2. **Potential Impact of Problem:** IFCCs
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.31.0
- ID#: 295152

CS Task Timeout caused GM Suspend

1. **Problem Description:** A microcode logic error caused a deadlock condition between cache and copy services functions.
 2. **Potential Impact of Problem:** Global Mirror Suspend
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.31.0
- ID#: 303225

Enable VAAI write same support by default

1. **Problem Description:** VMWare VAAI write same support was disabled by default, until the fix for a MT-PPRC issue could be fully tested.
 2. **Potential Impact of Problem:** degraded performance
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.31.0
- ID#: 306683

Cache Metadata Track function hang

1. **Problem Description:** The CMT function, which is used by CS to clear certain Copy Services metadata information, hangs in r7.4 code.
 2. **Potential Impact of Problem:** Unable to perform function
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.17.0
- ID#: 302608

Reduced sequential performance after update to r7.4

1. **Problem Description:** Optimizations made in r7.4 to support 1M IOPS produced some unwanted side-effects.
 2. **Potential Impact of Problem:** degraded performance
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.17.0
- ID#: 304102

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HyperWrite not working with Cascaded PPRC

1. **Problem Description:** Fix adds a new "Cascaded Failover" bit to the SNSS and PRSD-55 output
 2. **Potential Impact of Problem:** degraded performance
 3. **Problem Severity:** Moderate
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.8.0
- ID#: 303776

Service: A recoverable error, Service improvements.

DDM storage upgrade failure

1. **Problem Description:** Incorrect attribute value was set on air baffle objects, which caused the installation failure of DDMs into those slots.
 2. **Potential Impact of Problem:** Extended service action
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.42.0
- ID#: 307630

CDA suspends with SRC=BEB10020

1. **Problem Description:** During service processor firmware update, HMC logs a loss of communication with the service processor, as expected. This error should be suppressed during CDA.
 2. **Potential Impact of Problem:** Extended service window
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.42.0
- ID#: 307871

Write same with unmap timeout when formatting LUNs

1. **Problem Description:** Linux LVM track format does not align with the DS8000 extent boundaries. This caused DS8K to write zeroes, rather than discard the extents.
 2. **Potential Impact of Problem:** LVM format timeouts
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.42.0
- ID#: 307949

Msg CMUA00024E running STAT tool

1. **Problem Description:** r7.4 STAT tool fails, because it is unable to parse an r7.3 heat map. User will be directed to run the compatible STAT tool version.
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.42.0
- ID#: 308032

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Flash card install certify failed with no serviceable event

1. **Problem Description:** Flash card failed in a way that caused the certify process to abort for the failing card, without creating a serviceable event.
 2. **Potential Impact of Problem:** Could prevent rank creation
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.42.0
- ID#: 308169

Improve isolation for SRC=BE34029C

1. **Problem Description:** Typically this is a recoverable firmware error, but the current analysis routines call for parts replacement on the first error.
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** Yes
 5. **Release Bundle:** 87.41.42.0
- ID#: 308354

DSCLI 'showextpool' takes a long time to complete

1. **Problem Description:** sizeofRepository parameter was not properly defined in r7.4 and r7.5 versions of DSCLI.
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.42.0
- ID#: 308918

DSGUI posts error message when extent pool is full

1. **Problem Description:** If extent pool is intentionally full, this should not be reported as an error.
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.42.0
- ID#: 309364

0x2694 MLE during IML back

1. **Problem Description:** During IML back, with cross-cluster flash copy relations, cross-cluster query triggered a microcode logic error, and cluster failed to resume.
 2. **Potential Impact of Problem:** Extended service action
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.42.0
- ID#: 309386

Network check failure caused CDA suspend

1. **Problem Description:** During CDA, an error on one network caused CDA to suspend, without trying to use the alternate network connection.
 2. **Potential Impact of Problem:** Extended service action
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.42.0
- ID#: 309525

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Storage enclosure firmware update suspend

1. **Problem Description:** Expected sympathetic errors were not suppressed.
2. **Potential Impact of Problem:** Extended service action
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 87.41.42.0

ID#: 309842

CMUN04003E ESS_QUERY_UNSUCCESSFUL_EXCEPTION

1. **Problem Description:** A memory leak in Storage Agent resource manager will eventually cause query tasks to fail.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 87.41.42.0

ID#: 311011

0x05E0 MLE during SF IML

1. **Problem Description:** A microcode logic error during Storage Facility IML caused the SF to DSI and perform another dual IML. The exposure only exists during full SF IML.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 87.41.31.0

ID#: 302748

DS Storage Manager GUI hangs

1. **Problem Description:** The GUI server hit an Out-of-Memory Java error
2. **Potential Impact of Problem:** Unresponsive GUI
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 87.41.31.0

ID#: 304096

Lost volume group definitions

1. **Problem Description:** When modifying host port definitions for new GUI, if the volume group(s) for the port is the same as another existing volume group, one of the groups may be deleted.
2. **Potential Impact of Problem:** Volume group may need to be recreated
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 87.41.31.0

ID#: 305173

Option to disable 240-byte performance data

1. **Problem Description:** Code levels that supply 240-byte performance data to zOS are problematic for Customers that are running versions of zOS older than 1.12, or z/VM without VM65248. This fix provides the option to revert to the older 192-byte device performance stats.
2. **Potential Impact of Problem:** Abends
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 87.41.31.0

ID#: 305219

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Unable to run commands to VRAID adapter when in service mode

1. **Problem Description:** Could not run low-level VRAID commands
2. **Potential Impact of Problem:** Extended maintenance window
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 87.41.31.0

ID#: 305254

Missing heartbeat callhome

1. **Problem Description:** After spring Daylight Saving Time change, heartbeat fails to collect data until HMC is returned to standard time.
2. **Potential Impact of Problem:** Missing heartbeats
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 87.41.31.0

ID#: 305698

Enhanced VRAID soft error isolation

1. **Problem Description:** Soft error analysis does not always correctly identify the failing component
2. **Potential Impact of Problem:** Multiple repair actions
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 87.41.31.0

ID#: 305894

0x05E MLE during CDA

1. **Problem Description:** During CDA failover to update the second LPAR, the Device Adapter failover code improperly handled the format of the message from the down-level LPAR, causing a Microcode Logic Error.
2. **Potential Impact of Problem:** Warmstart caused CDA to suspend
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 87.41.31.0

ID#: 306939

DDM replacement failure

1. **Problem Description:** Map 4970 enhancement for SRC BE340027 where DDM is bypassed by FCIC firmware.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 87.41.31.0

ID#: 307067

Storage enclosure interface card replacement failure

1. **Problem Description:** FCIC repair fails during FRU level identify when enclosure serial number contains the letter 'T'
2. **Potential Impact of Problem:** Extended repair
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 87.41.17.0

ID#: 303200

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Increase maximum number of TPC-R server connections allowed

1. **Problem Description:** Environments with multiple TPC-R servers may exceed the maximum client logins to the DS8K. This change increases the default maximum client logins from 10 to 64.
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.17.0
- ID#: 303459

0x7002 MLE

1. **Problem Description:** Microcode Logic Error when attempting to update the change recording bitmap on PPRC primary with incremental resync.
 2. **Potential Impact of Problem:** Warmstart
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.8.0
- ID#: 302618

CDA distribute failed

1. **Problem Description:** Errant touchfile left on LPAR prevented distribute to the LPAR.
 2. **Potential Impact of Problem:** Extended service window
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.8.0
- ID#: 303302

GUI shows 'Install not complete'

1. **Problem Description:** A microcode problem causes the System Properties GUI panel to incorrectly show 'Install not complete' status.
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Service
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.8.0
- ID#: 303446

Improvements: Improvement for better usability

Optional proactive 'Slow Disk' notification

1. **Problem Description:** Creates SRC BE346018 for Customer notification of DDMs that are posting 'slow disk' messages. Notification is enabled by control switch. HMC will not call home for this message.
 2. **Potential Impact of Problem:** none
 3. **Problem Severity:** Improvement
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 87.41.31.0
- ID#: 304271

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PCR 7703: Allow MT-PPRC for Migration from Previous DS8K Models

1. **Problem Description:** New Function
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 87.41.31.0

ID#: 304602

SSLv3 'Poodle' fix enhancement

1. **Problem Description:** Current implementation leaves Customers with problems accessing systems that do not yet have the 'Poodle' fix.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 87.41.31.0

ID#: 305745

SSLv3 security vulnerability

1. **Problem Description:** Corrects CVE-2014-3566 "Poodle" Vulnerability, by disabling SSL v3 access.
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 87.41.17.0

ID#: 302533

WebSM/AOS callhome change

1. **Problem Description:** Update callhome records with AOS information
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 87.41.8.0

ID#: 300132

FC 843: Allow PPRC Failover and Freeze PPRC through soft fence

1. **Problem Description:** Allow PPRC Failover/Failback (PPRC Establish Pair with Failover or Failback parameters set) through Soft Fence, for z/OS hyperswap support of multi-target PPRC
2. **Potential Impact of Problem:** none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** No
5. **Release Bundle:** 87.41.8.0

ID#: 303305

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