

IBM System Storage DS8800 Disk Storage

86.20.x.x Release Notes Cumulative Summary v9

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Date: January 3, 2013

VRMF Level Data Results:

VRMF level From:	86.20.98.0
VRMF Level To:	86.20.132.0
Report for:	DS8800

Code Bundle Contents

DS8000 Code Bundle	SEA or LMC Version: Display with dscli <i>ver</i> command	CLI Client Level	Storage Manager Code Level
86.20.132.0	7.6.20.850	7.6.20.850	5.6.20.1161
86.20.130.0	7.6.20.830	7.6.20.820	5.6.20.1160
86.20.129.0	7.6.20.820	7.6.20.820	5.6.20.1160
86.20.121.0	7.6.20.660	7.6.20.660	5.6.20.1142
86.20.117.0	7.6.20.570	7.6.20.570	5.6.20.1127
86.20.114.0	7.6.20.510	7.6.20.510	5.6.20.1127
86.20.111.0	7.6.20.450	7.6.20.450	5.6.20.1093
86.20.101.0	7.6.20.226	7.6.20.224	5.6.20.1089
86.20.98.0	7.6.20.221	7.6.20.221	5.6.20.1086

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 recovery for a DA adapter with LRC errors causes invalid bitmap

- 1. Problem Description:** Error recovery for a DA adapter with LRC errors did repeated warmstarts causing LPAR failover. The repeated warmstarts can result in an invalid copy services bitmap on the operational LPAR. Copy services volumes can be in a FC-08 condition, pinned non-retryable, as a result of the bitmap.
- 2. Potential Impact of Problem:** loss of data
- 3. Problem Severity:** HIPER
- 4. Pervasive Problem:** Yes
- 5. Release Bundle:** 86.20.130.0

ID#: 273497

Change smart rebuild abort error handling

- 1. Problem Description:** When smart rebuild is forced to abort due too many errors on the source drive a full raid rebuild will be performed.
- 2. Potential Impact of Problem:** loss of data
- 3. Problem Severity:** HIPER
- 4. Pervasive Problem:** Yes
- 5. Release Bundle:** 86.20.121.0

ID#: 269509

Internal I/O fabric error results in a cache and NVS mis-compare

- 1. Problem Description:** An internal I/O fabric error can result in data loss when a mis-compare for cache and NVS data is detected. This will result in multiple sector data loss.
- 2. Potential Impact of Problem:** loss of data
- 3. Problem Severity:** HIPER
- 4. Pervasive Problem:** Yes
- 5. Release Bundle:** 86.20.117.0

ID#: 267503

RAID10 array member with a mis-compare error is read for recovery

- 1. Problem Description:** A RAID10 array member has a mis-compare error and during recovery the same DDM is read instead of the mirrored partner drive. This result in data loss for the affected tracks.
- 2. Potential Impact of Problem:** loss of data
- 3. Problem Severity:** HIPER
- 4. Pervasive Problem:** Yes
- 5. Release Bundle:** 86.20.114.0

ID#: 261209

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New zHPF format write function in release 6.2 can cause data error

1. **Problem Description:** See alert
<http://www.ibm.com/support/docview.wss?uid=ssg1S1004024>
 2. **Potential Impact of Problem:** loss of data
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 86.20.111.0
- ID#: 268060

Microcode error can fence multiple host adapters with zHFP

1. **Problem Description:** High Performance FICON channels can send chains with both format write and update write. A microcode error will cause all the host adapters to become fenced.
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 86.20.98.0
- ID#: 265710

Serious: An irrecoverable error with potential loss of access

Withdraw of FlashCopy full copy relationship before copy complete fails

1. **Problem Description:** When a withdraw is issued to a FlashCopy full copy relationship, where the target volume has Metro Mirror incremental resync set, a microcode logic error will leave the relationship in a validation needed state if the copy has not completed.
 2. **Potential Impact of Problem:** loss of access
 3. **Problem Severity:** HIPER
 4. **Pervasive Problem:** Yes
 5. **Release Bundle:** 86.20.130.0
- ID#: 270835

8GB Host Adapter on R6.1 exposed to processor checkstop

1. **Problem Description:**
<http://www-01.ibm.com/support/docview.wss?uid=ssg1S1003931>
 2. **Potential Impact of Problem:** Loss of access
 3. **Problem Severity:** High Impact
 4. **Pervasive Problem:** No
 5. **Release Bundle:** 86.20.130.0
- ID#: 258339

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During microcode update a microcode logic error causes loss of access

- 1. Problem Description:** During the time the LPAR is quiesced for update the ownership of the I/O Bays is transferred to the other LPAR. A microcode logic error can cause the transfer to be retried repeatedly and the operational LPAR to encounter a Data Storage Interrupt which will reboot the LPAR.
 - 2. Potential Impact of Problem:** loss of access
 - 3. Problem Severity:** High Impact
 - 4. Pervasive Problem:** No
 - 5. Release Bundle:** 86.20.130.0
- ID#: 270884

Easy Tier staging tracks that are beyond the end of the extent

- 1. Problem Description:** Easy Tier migration can stage tracks that are beyond the end of the extent. A microcode logic error can repeatedly attempt stage of tracks that are beyond the end of the extent until loss of access occurs.
 - 2. Potential Impact of Problem:** loss of access
 - 3. Problem Severity:** HIPER
 - 4. Pervasive Problem:** Yes
 - 5. Release Bundle:** 86.20.130.0
- ID#: 270887

Easy Tier staging tracks that are beyond the end of the extent

- 1. Problem Description:** Easy Tier migration can stage tracks that are beyond the end of the extent. A microcode logic error can repeatedly attempt stage of tracks that are beyond the end of the extent until loss of access occurs.
 - 2. Potential Impact of Problem:** loss of access
 - 3. Problem Severity:** HIPER
 - 4. Pervasive Problem:** Yes
 - 5. Release Bundle:** 86.20.129.0
- ID#: 270887

Withdraw FlashCopy full copy relationship before copy complete fails

- 1. Problem Description:** When a withdraw is issued to a FlashCopy full copy relationship, where the target volume has Metro Mirror incremental resync set, a microcode logic error will leave the relationship in a validation needed state if the copy has not completed.
 - 2. Potential Impact of Problem:** loss of access
 - 3. Problem Severity:** HIPER
 - 4. Pervasive Problem:** Yes
 - 5. Release Bundle:** 86.20.129.0
- ID#: 270835

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During microcode update a microcode logic error causes loss of access

1. **Problem Description:** During the time the LPAR is quiesced for update the ownership of the I/O Bays is transferred to the other LPAR. A microcode logic error can cause the transfer to be retried repeatedly and the operational LPAR to encounter a Data Storage Interrupt which will reboot the LPAR.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 86.20.129.0
ID#: 270884

Control unit ports have test initialization hung preventing re-login

1. **Problem Description:** Control unit ports are hung (TIN) test initialization and are unable to re-login to the switch due to a microcode logic error. This will cause MIH errors leading to loss of access on all paths.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 86.20.121.0
ID#: 269518

Single bit memory error causes DA adapter reset

1. **Problem Description:** Single bit memory error causes DA error and adapter reset, multiple errors are possible. This can result in a fenced DA adapter or loss of access
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 86.20.121.0
ID#: 263990

DA adapter ports enabled during cluster failover

1. **Problem Description:** During cluster failover or quiesce the DA adapter leave the ports enabled. Partner DA adapters are unable to communicate to the DA adapters because the processor is disabled.
2. **Potential Impact of Problem:** loss of access
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 86.20.121.0
ID#: 265801

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Reset of host adapter leaves link light active

- 1. Problem Description:** When a reset of a host adapter is delayed the link light is left active causing the host to retry the path until the 30 second timer on the turns the link light off
- 2. Potential Impact of Problem:** loss of access
- 3. Problem Severity:** HIPER
- 4. Pervasive Problem:** Yes
- 5. Release Bundle:** 86.20.121.0
ID#: 263194

Unit abort when zOS writing to a FlashCopy target with link errors

- 1. Problem Description:**
<http://www.ibm.com/support/docview.wss?uid=ssg1S1004077>
- 2. Potential Impact of Problem:** loss of access
- 3. Problem Severity:** High Impact
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 86.20.121.0
ID#: 270451

Device Adapter port is disabled due to a microcode logic error

- 1. Problem Description:** Port on a DA is disabled after a recovered error on FC-AL loop fails to clear the interrupt due to a microcode logic error.
- 2. Potential Impact of Problem:** Unnecessary DA replacement, loss of access possible
- 3. Problem Severity:** High Impact
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 86.20.114.0
ID#: 263428

Primary Power Supply in an internal fence state not being cleared

- 1. Problem Description:** When a Primary Power Supply is set to internal fence pending state this state is not cleared due to a microcode logic error. If the partner Primary Power Supply has a failure while internal fence pending state is set the machine go through emergency shutdown.
- 2. Potential Impact of Problem:** loss of access
- 3. Problem Severity:** HIPER
- 4. Pervasive Problem:** Yes
- 5. Release Bundle:** 86.20.114.0
ID#: 265581

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Alias volumes are inaccessible after host adapter error recovery

- 1. Problem Description:** If we receive a SPID DISBAND command when all of the volumes in the LSS are not in a good state then a microcode logic error could cause alias volumes to become inaccessible. If host software error recovery only retries access to alias volumes then a permanent I/O error will result.
- 2. Potential Impact of Problem:** loss of access, unplanned hyperswap
- 3. Problem Severity:** High Impact
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 86.20.114.0

ID#: 265713

Microcode error can fence multiple host adapters with zHFP

- 1. Problem Description:** High Performance FICON channels can send chains with both format write and update write. A microcode error will cause all the host adapters to become fenced.
- 2. Potential Impact of Problem:** loss of access
- 3. Problem Severity:** High Impact
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 86.20.111.0

ID#: 265710

Cluster reboots with the previous code level during CCL

- 1. Problem Description:** During code load an error causes cluster reboot and the cluster loads a previous code level which results in both clusters rebooting
- 2. Potential Impact of Problem:** loss of access
- 3. Problem Severity:** High Impact
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 86.20.98.0

ID#: 256146

Microcode logic error results in dual cluster reboot

- 1. Problem Description:** During cluster IML Back the available DA sends global metadata to the partner DA. If an error is detected in the metadata then error recovery incorrectly reboots both clusters.
- 2. Potential Impact of Problem:** loss of access
- 3. Problem Severity:** High Impact
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 86.20.98.0

ID#: 261787

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Attention status sent to HyperPAV alias device

- 1. Problem Description:** If a command that requires a message is received on an alias device the attention status message is sent to the alias device. The message must be sent to the base device. This problem has been seen with Syncsort®
 - 2. Potential Impact of Problem:** loss of access
 - 3. Problem Severity:** High Impact
 - 4. Pervasive Problem:** No
 - 5. Release Bundle:** 86.20.98.0
- ID#: 259187

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

Global mirror fatal error is possible with FlashCopy revertible pairs

- 1. Problem Description:** When there are network issues and FlashCopy was established revertible option then Global Mirror can experience a fatal error due to a microcode error
 - 2. Potential Impact of Problem:** Global Mirror suspend
 - 3. Problem Severity:** Moderate
 - 4. Pervasive Problem:** No
 - 5. Release Bundle:** 86.20.132.0
- ID#: 274483

PPRC suspend caused when microcode logic error detects no buffers

- 1. Problem Description:** A microcode logic error incorrectly indicates zero buffers are available on the host adapter. This can occur on direct attached PPRC paths.
 - 2. Potential Impact of Problem:** PPRC suspend, PPRC path failures
 - 3. Problem Severity:** Moderate
 - 4. Pervasive Problem:** Yes
 - 5. Release Bundle:** 86.20.132.0
- ID#: 273044

Synchronous PPRC pair "stalls" in duplex pending state

- 1. Problem Description:** When a FlashCopy target is a PPRC primary and a FlashCopy establish incremental command is issued the target will remain in duplex pending state if source is updated. If Preserve Mirror is used with FlashCopy this problem will not occur.
 - 2. Potential Impact of Problem:** loss of sync between PPRC pair
 - 3. Problem Severity:** Moderate
 - 4. Pervasive Problem:** Yes
 - 5. Release Bundle:** 86.20.130.0
- ID#: 272514

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LRC error on PPRC host adapter will suspend the pair

- 1. Problem Description:** If a host adapter detects an LRC error the track will be restored from NVS. If the track is good in cache after restore then the PPRC pair will not be suspended
- 2. Potential Impact of Problem:** PPRC pair suspended
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 86.20.130.0
ID#: 269342

zHPF format write can cause XRC suspend with 9C4-08 abend

- 1. Problem Description:** zHPF format write command has 55 records to an XRC device cause an XRC suspend. This only occurs with 55 record format write command.
- 2. Potential Impact of Problem:** XRC suspend
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 86.20.130.0
ID#: 273490

Easy Tier SSD rank performance degraded when bandwidth exceeded

- 1. Problem Description:** Easy Tier does not warm demote extends in an efficient manner with random I/O workload is high and sequential I/O has large sized I/O operations.
- 2. Potential Impact of Problem:** degraded performance
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 86.20.130.0
ID#: 270991

Easy Tier does not calculate rank bandwidth effectively for large I/O sizes

- 1. Problem Description:** The rank bandwidth calculation is not efficient for large I/O operations. SSD rank saturation during peak workloads can result.
- 2. Potential Impact of Problem:** performance degraded
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 86.20.130.0
ID#: 272377

Changing from single reader to multiple reader XCR session can fail

- 1. Problem Description:** When changing from single reader XRC session to multiple reader XRC session will fail due to a microcode logic error that does not initialize the session ID to the correct value
- 2. Potential Impact of Problem:** Primary session ID mismatch, significant manual recovery required.
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** Yes
- 5. Release Bundle:** 86.20.130.0
ID#: 263823

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zHPF format write can cause XRC suspend with 9C4-08 abend

- 1. Problem Description:** zHPF format write command has 55 records to an XRC device cause an XRC suspend. This only occurs with 55 record format write command.
 - 2. Potential Impact of Problem:** XRC suspend
 - 3. Problem Severity:** Moderate
 - 4. Pervasive Problem:** No
 - 5. Release Bundle:** 86.20.129.0
- ID#: 273490

Synchronous PPRC pair "stalls" in duplex pending state

- 1. Problem Description:** When a FlashCopy target is a PPRC primary and a FlashCopy establish incremental command is issued the target will remain in duplex pending state if source is updated. If Preserve Mirror is used with FlashCopy this problem will not occur.
 - 2. Potential Impact of Problem:** loss of sync between PPRC pair
 - 3. Problem Severity:** Moderate
 - 4. Pervasive Problem:** Yes
 - 5. Release Bundle:** 86.20.129.0
- ID#: 272514

LRC error on PPRC host adapter will suspend the pair

- 1. Problem Description:** If a host adapter detects an LRC error the track will be restored from NVS. If the track is good in cache after restore then the PPRC pair will not be suspended
 - 2. Potential Impact of Problem:** PPRC pair suspended
 - 3. Problem Severity:** Moderate
 - 4. Pervasive Problem:** No
 - 5. Release Bundle:** 86.20.129.0
- ID#: 269342

Slow FlashCopy performance with background copy

- 1. Problem Description:** When the configuration which use extent pool striping has all low numbered ranks on one DA Pair and all high numbered ranks on another DA Pair there can be slow performance for FlashCopy back ground copy.
 - 2. Potential Impact of Problem:** Degraded FlashCopy performance
 - 3. Problem Severity:** Moderate
 - 4. Pervasive Problem:** Yes
 - 5. Release Bundle:** 86.20.114.0
- ID#: 238791

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Microcode logic error causes cluster failback to dual to fail

- 1. Problem Description:** During CCL or cluster repair the failback to dual cluster can fail when GM/MM/PPRC is active on secondary and the initial copy has not completed.
- 2. Potential Impact of Problem:** PPRC suspend
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 86.20.111.0
ID#: 266739

During host adapter configuration the wrong port topology is read

- 1. Problem Description:** During cluster resume when the host adapters are configured a microcode logic error causes an incorrect port topology to be read. This will result in the port failing to operate.
- 2. Potential Impact of Problem:** loss of paths, PPRC failures are possible
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 86.20.98.0
ID#: 259452

I/O bay is fenced during cluster failover due to a microcode error

- 1. Problem Description:** During a cluster failover the operational cluster takes control of the remote I/O bays. If one of the I/O bays is marked for delay reset the takeover of the I/O bay will fail and the bay will be fenced
- 2. Potential Impact of Problem:** loss of path
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 86.20.98.0
ID#: 259422

PPRC failback command time-out

- 1. Problem Description:** Auto-unsuspend and PPRC failback tasks interfere with each other and cause PPRC failback command to time-out
- 2. Potential Impact of Problem:** PPRC failback failure
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 86.20.98.0
ID#: 254268

Global Mirror failure caused by incorrect volume state

- 1. Problem Description:** PPRC determines the volume state is offline when the volume is online and available. This causes Global Mirror to suspend.
- 2. Potential Impact of Problem:** Global Mirror failure
- 3. Problem Severity:** Moderate
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 86.20.98.0
ID#: 238522

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Service: A recoverable error, Service improvements.

PPRC command reject can result in a warmstart

- 1. Problem Description:** On a highly utilized PPRC link a command reject result in a warmstart due to a microcode logic error
- 2. Potential Impact of Problem:** warmstart
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 86.20.132.0
ID#: 275799

Destage of cache data can encounter a microcode logic error

- 1. Problem Description:** Due to a microcode logic error a warmstart can occur during cache destage. This error will result in a warmstart
- 2. Potential Impact of Problem:** warmstart
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** Yes
- 5. Release Bundle:** 86.20.132.0
ID#: 273131

Improved isolation of Host Adapter LRC errors

- 1. Problem Description:** When two host adapters in the same I/O Bay log an LRC error then expand the FRU list to the PCIe card.
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 86.20.130.0
ID#: 265401

Smart rebuild failure when source drive can not be read

- 1. Problem Description:** If the source drive can not be read during smart rebuild the source drive is not rejected, causing smart rebuild to abort.
- 2. Potential Impact of Problem:** extended maintenance
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 86.20.114.0
ID#: 267042

Improved fault isolation for SRC BE304442 FC-AL loop error

- 1. Problem Description:** A single DDM can cause BE304442 multiple DDMs single port active error to be logged. If a single DDM is identified as single port active that DDM will be identified as the failing part.
- 2. Potential Impact of Problem:** extended or repeat service
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** Yes
- 5. Release Bundle:** 86.20.114.0
ID#: 255215

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FICON commands with chained data can cause IFCC

- 1. Problem Description:** If commands with chained data are received it is possible a microcode error will cause the command to cause an interface control check.
- 2. Potential Impact of Problem:** IFCC
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 86.20.114.0
ID#: 265644

Repeated recovered faults on internal I/O fabric does not call home

- 1. Problem Description:** Repeated unisolated fabric faults on an I/O bay are recovered by warmstart but no serviceable event is opened. This change will call home if previous fabric faults have occurred on the same I/O bay.
- 2. Potential Impact of Problem:** additional recovered fabric faults
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 86.20.114.0
ID#: 259669

MIH errors during FlashCopy withdraw on extended address volumes

- 1. Problem Description:** FlashCopy withdraw can take longer than 30 sec. for extended address volumes because of the time required for metadata update.
- 2. Potential Impact of Problem:** MIH errors during FlashCopy withdraw
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 86.20.114.0
ID#: 263377

DSCLI lsavailpprepath command returns CMUC00234I error

- 1. Problem Description:** Command reject prevents all valid PPRC paths from being displayed by the lsavailpprepath command. This problem is due to a microcode error.
- 2. Potential Impact of Problem:** Invalid PPRC path information
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 86.20.114.0
ID#: 265457

DSGUI menus not accessible with Mozilla Firefox® 3.5

- 1. Problem Description:** DSGUI main page will load but when a menu is selected it will not complete loading.
- 2. Potential Impact of Problem:** No DSGUI access from browser
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 86.20.114.0
ID#: 264541

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Fabric error not isolated to the adapter results in cluster failover

- 1. Problem Description:** Error recovery for a failure reading an adapter information does not isolate the problem correctly. Error recovery causes a cluster failover that could be avoided
- 2. Potential Impact of Problem:** single cluster operation
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 86.20.111.0
ID#: 265499

Microcode detected error causes warmstart

- 1. Problem Description:** Microcode detected error during wise order write can cause a warmstart
- 2. Potential Impact of Problem:** none
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** Yes
- 5. Release Bundle:** 86.20.111.0
ID#: 264345

User login to the HMC can display CDA Preload option

- 1. Problem Description:** When the CDA Preload has updated the HMC and is ready to activate the storage facility code a menu is presented to the IBM service personnel. If a customer defined userid logs on at that time they will also be presented the pop-up window meant for service personnel.
- 2. Potential Impact of Problem:** Customer initiated code load
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 86.20.111.0
ID#: 264050

Service actions can fail in a dual HMC environment

- 1. Problem Description:** In a dual HMC environment service actions that require Resource Management Control will fail unless performed from the HMC that is the RMC group leader.
- 2. Potential Impact of Problem:** extended maintenance
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 86.20.101.0
ID#: 265876

NVS mail LRC error causes cluster failover

- 1. Problem Description:** Due to a microcode error an NVS mail LRC error is detected and cluster failover results
- 2. Potential Impact of Problem:** Cluster failover and failback
- 3. Problem Severity:** Service
- 4. Pervasive Problem:** No
- 5. Release Bundle:** 86.20.98.0
ID#: 261561

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Query of a deleted volume on Global Mirror secondary causes error

- 1. Problem Description:** Query of volume / LSS that has been deleted on a Global Mirror secondary will result in a microcode detected error and an automated warmstart. Enough queries to a nonexistent volume / LSS could result in a cluster failover and reboot
 - 2. Potential Impact of Problem:** warmstart
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
 - 5. Release Bundle:** 86.20.98.0
- ID#: 259777

Host adapter time-out during warmstart causes cluster failover

- 1. Problem Description:** When a host adapter fails to respond to an internal command during warmstart then recursive warmstart and cluster failover can result. The host adapter should be fenced instead of cluster failover.
 - 2. Potential Impact of Problem:** Cluster failover
 - 3. Problem Severity:** Service
 - 4. Pervasive Problem:** No
 - 5. Release Bundle:** 86.20.98.0
- ID#: 253260

Improvements: Improvement for better usability

Enable CDA PreVerify to check previous I/O Bay status

- 1. Problem Description:** Improvement to CDA PreVerify previous I/O Bay status and fence the I/O Bay prior to microcode update if I/O Bay reset is required.
 - 2. Potential Impact of Problem:** Extended service
 - 3. Problem Severity:** Improvement
 - 4. Pervasive Problem:** N/A
 - 5. Release Bundle:** 86.20.130.0
- ID#: 274245

Auto-format when iSeries host creates a volume that is PPRC primary

- 1. Problem Description:** When an iSeries host creates a volume that is a PPRC Primary a format unit command is sent and an auto-format is run on the volume. The volume does not need to be formatted.
 - 2. Potential Impact of Problem:** Unneeded volume format
 - 3. Problem Severity:** Improvement
 - 4. Pervasive Problem:** N/A
 - 5. Release Bundle:** 86.20.98.0
- ID#: 257817

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