Release Date: January 29, 2018

VRMF Level Data Results:

| VRMF level From: | 86.31.217.0 |
|------------------|-------------|
| VRMF Level To: | 86.31.220.0 |
| Report for: | All DS8800 |

Code Bundle Contents

This table includes code component reference information.

| DS8000 Code Bundle Level | SEA or LMC Version: Used with dscli ver command. | | Storage Manager Code Level |
|-----------------------------|--|-----------|-------------------------------|
| 86.31.220.0 | 7.6.31.4200 | 7.8.25.15 | 5.6.31.1415 |

Overview of new features and functions supported by this release on DS8800, 242x model 951

At a glance:

- Unified DSCLI version
- Remote Support Console option
- Problem fixes
- Serviceability enhancements
- Improvements

This new microcode release supports only the DS8800.

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: 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

Acute: An irrecoverable error with potential loss of data.

XRC data miscompare

1. Problem Description: A channel error occurred while processing a bitmap toggle command. The command was redriven, resetting bitmap values that should not have been reset.

2. Potential Impact of Problem: loss of data

3. Problem Severity: High Impact

4. Pervasive Problem: No

ID#: 324307

Potential data loss in systems running zHPF and APAR OA52080

1. **Problem Description:** A microcode logic error may result in data loss in systems running zHPF, with Format Write chains that have multi-track embedded Locate Record entries, such as those created for Torn Page Protection.

2. Potential Impact of Problem: loss of data

3. Problem Severity: High Impact

4. Pervasive Problem: No

ID#: 331965

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

None.

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

LRC error incorrectly fenced a Host Adapter

1. **Problem Description:** Sector LRC was good across the 524-byte IBM i sector, but was not good across the 512-byte data portion. When the sector was subsequently read, the data area LRC was not checked until it got to the host adapter.

2. Potential Impact of Problem: loss of path

3. Problem Severity: Moderate4. Pervasive Problem: No

ID#: 330688

Old timestamps with idle XRC volumes

1. **Problem Description:** An old timestamp in a recordset may occur when there is no other I/O with timestamps to advance the XRC session current time. When a host timestamp is received, in addition to storing the time in the session's structure, we will also store the DS8K local time.

2. Potential Impact of Problem: XRC volume mismatch

3. Problem Severity: Moderate4. Pervasive Problem: No

ID#: 330949

Service: A recoverable error, Service improvements.

HMC not responding if one network interface is down

1. Problem Description: DSCLI and CSM commands are not processed on the remaining internal network path.

2. Potential Impact of Problem: none

3. Problem Severity: Service4. Pervasive Problem: No

ID#: 325728

Locate Record Erase function not counted in write performance stats

1. Problem Description: The Device Write performance counts are not updated when the Locate Record operation is Erase

2. Potential Impact of Problem: Incorrect statistics

Problem Severity: Service
 Pervasive Problem: No

ID#: 331820

Improvements: Improvement for better usability

HMC Security Updates

- **1. Problem Description:** Update ssh ciphers, CIM agent, JVM support for 2048 bit DHE keys, and remove RSA support from Web UI ciphers.
- 2. Potential Impact of Problem: loss of data, loss of access, loss of path, degraded performance, none
- 3. Problem Severity: Improvement
- 4. Pervasive Problem: No

ID#: 331265

Trademarks

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

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

IBM, the IBM logo, and ibm.com are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the web at Copyright and trademark information at http://www.ibm.com/legal/us/en/copytrade.shtml. Adobe, the Adobe logo, PostScript, and the PostScript logo are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States, and/or other countries.

Java and all Java-based trademarks and logos are trademarks or registered trademarks of Oracle and/or its affiliates.

Linux is a trademark of Linus Torvalds in the United States, other countries, or both.

Microsoft, Windows, and Windows NT are trademarks of Microsoft Corporation in the United States, other countries, or both.

© Copyright IBM Corp. 2004, 2011

Notices

This information was developed for products and services offered in the U.S.A. IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing

IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATIONS "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.