

# IBM TotalStorage® DS8000 Disk Storage 1 **Microcode Bundle 64.36.500.500 v1 Release Note Information**

**Date:** July 20, 2012

## **Code Contents**

This is RPC only microcode. This RPC code is installed based on the microcode bundles listed in table 1.

The DS8000 Code Bundle, SEA ( LMC), DSCLI client and Storage manager remain unchanged if only 64.36.500.500 is installed.

**Table 1: RPC Only Code Load**

| Starting Level | Level to Acquire | Action          | Availability | Code Load time  |
|----------------|------------------|-----------------|--------------|-----------------|
| 64.36.x.x      | 64.36.500.500    | Update RPC only | 7/20/12      | 1.5 – 2.0 hours |

### **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) reported in this release note may not be in higher levels of code bundles.

### **Definition of Problem Severity:**

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

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

#### **Potential loss of access due to an Rack Power Control (RPC) to Central Electronics Complex (CEC) communication problem**

**Abstract:** DS8000 users running release 3.0 or higher microcode (63.0.x.x) may be exposed to a low frequency but high impacting RPC communication logic state preventing communication from both CECs, and a hang condition resulting in a loss of access to data. The hung bus is required for the system to monitor power system status. The system is unavailable until CE recovers it. This condition is indicated by messages indicating a loss of communication to the RPC from both CECs. The result is the machine is powered on but unable to provide data access. Modified data not yet on disk is still in the NVS memory. This data is written to disk as part of the recovery process.

**Content:** The fix is that the RPC firmware change checks for the bus hang condition. If

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the hang occurs the RPC is reset, which clears the condition. The fix also improves verification of CEC to RPC messages. The fix is entirely contained within the RPC firmware component. No other DS8000 firmware components are affected. This fix is available as a concurrently installable RPC firmware only update, which can be applied to many machines in as little as 2 hours or less, without requiring a full CCL update, as shown below. If your bundle is not listed, you may contact your next level of support for details on other code bundles which may be eligible for a concurrent RPC firmware only update, as this list will change subsequent to publication.

**Problem Resolution:** For those wishing to just load the RPC firmware update, the “Starting level”, “Level to acquire” availability dates, and durations are identified above. Note that this RPC only update is done in dual cluster mode; there is no need during any portion of the RPC firmware update to be in single cluster mode. If this firmware is loaded the instructions direct the SSR to verify MRPD data is being sent to IBM for the purpose of tracking which machines have this code installed.

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