

DataDirectTM

NETWORKS



S2A9900

Spontaneous LUN Format After Unplanned Controller Outage

Technical Support Bulletin

Revision A1

6 May 2014

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1.0 Overview

1.1 Issue Summary and Mandatory Upgrade

A controller reboot can cause the S2A9900 to spontaneously format one or more LUNs under certain rare conditions, resulting in data loss. This issue occurs only if the reboot follows a configuration SAVE operation that interrupts a LUN format operation.

S2A DirectOS version 6.16 resolves this issue.

ALERT S2A DirectOS version 6.16 is a **MANDATORY UPGRADE**.

1.2 Affected Systems

S2A9900 and S2A9700 platforms running S2A DirectOS versions 6.12 through 6.15 can experience this issue.

2.0 Problem Description and Root Cause

An unexpected power outage or controller reboot will automatically trigger a configuration SAVE on S2A platforms running DirectOS RAID firmware versions 6.12 to 6.15. The configuration SAVE command can also be issued manually. If the configuration SAVE occurs during a LUN format operation — including the LUN formatting that occurs automatically in conjunction with creating or deleting a LUN — the configuration SAVE will record a LUN format in progress.

If this interruption and SAVE is followed by the move of affected LUN(s) from one controller to another — for example, in order to complete the interrupted LUN format job — certain parameter blocks may not be updated correctly when the format completes. The LUN format operation may remain marked as “in progress.”

Later, after data is written to the formatted drives, the controller that owns the affected LUNs may experience a **second** unexpected failure or outage, perhaps weeks or months later. During recovery, the rebooted controller checks the stored configuration metadata and discovers the incorrect parameter blocks. These blocks direct the rebooted controller to spontaneously “complete” the previous LUN format operation that is recorded as being “in progress”. Reformatting the LUN results in data loss.

Only LUNs which were formatted in part by the owning controller and in part by another controller are affected by this issue. Other LUNs which were formatted during the same format operation, but whose physical reformatting was completed under the ownership of a single controller, do not lose data.

Refer to defect number DE11430 for details.

3.0 Resolution

This issue is resolved in S2A DirectOS version 6.16. All S2A9900 and S2A9700 customers running S2A DirectOS versions 6.12 to 6.15 are **required** to upgrade to version 6.16.

The firmware upgrade should be performed **offline** and both controllers should be upgraded concurrently.

4.0 Contacting DDN Technical Support

Please feel free to contact DDN Technical Support for assistance at any time. Support can be reached by telephone, email, or on the web as follows:

Telephone

DDN Support Worldwide Directory <http://www.ddn.com/support/contact-support>

Email

Support Email support@ddn.com
Mailing List Subscriptions support-tsb@ddn.com

Web

Support Portal <https://portal.ddnsupport.com>
Portal Assistance webportal.support@ddn.com
Technical Support Bulletins <http://www.ddn.com/support/technical-service-bulletins>