

intel® Technical Advisory

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5200 NE Elam Young Parkway
Hillsboro, OR 97124

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Low-Level Format SCSI Hard Disk Failure Using Intel® RAID Controllers SRCU32, SRCU42L, and SRCZCR

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Products Affected

Product Name	Order Code	Description
SRCU32	SRCU32	Intel® RAID Controller SRCU32
SRCU42L	SRCU42L	Intel® RAID Controller SRCU42L
SRCZCR	SRCZCR	Intel® RAID Controller SRCZCR

Description

The controllers listed above may experience a "DRIVE NOT AVAILABLE" failure when performing a hard disk drive format with a SCSI hard disk drive attached to the RAID controller even if there is no medium error on the hard disk drive.

This format disk function of the RAID controller sends a format unit command to the physical hard disk drive. The drive responds to this command by performing the low-level format function. The RAID controller stands by to receive a "good" status from the drive when it has successfully finished the low-level format. No progress information is shown during the format function. The internal format behavior of the drive and the amount of time it takes to complete the format depends on the manufacturer's format unit command implementation in the firmware of the drive, and the speed and capacity of the drive.

All hard disk drive manufacturers deliver their products already formatted and surface-tested. For new hard disks it is neither necessary nor advisable to perform the format disk operation available on the RAID controller. This function is only indicated if the hard disk drive's condition is in doubt.

Warning: You should not interrupt a low-level format of a drive. Interrupting a low-level format creates a high probability of a non-functioning hard disk drive.

Hard disk format failures will be stopped with the last status code 0x31007003; no Retries, Reassigns & Grown Defects; and an error message "Error: Controller returned error code 0x0004 (DRIVE NOT AVAILABLE)".

Steps to induce the failure are as follows:

1. Press <Ctrl>+<G> to activate the BIOS Storcon utility for Intel® RAID Controllers
2. Press <F4>
3. Select "Configure Physical Device"
4. Select a SCSI hard disk drive
5. Select the option to format the hard disk drive. If the drive fails to complete the format the user may see the error message above.

Root Cause

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The format operation is determined by each hard drive vendor on a per model basis, the failure to complete the format is due to the incompatibility between RAID controller firmware and HDD firmware.

Corrective Action / Resolution

The issue can be resolved by restarting the format option available on the RAID controller, or by using a special low-level format utility available from the disk manufacturer.

Workarounds

- Run the format disk function in the Storcon utility again.
- Use hard disk Low Level Disk Format utility available from the disk manufacturer to perform the format.

Please contact your Intel Sales Representative if you require more specific information about this issue.

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