intel® Technical Advisory

TA-315-1

5200 NE Elam Young Parkway
Hillsboro, OR 97124

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Intel's Server Diagnostics Utility should not be run on systems configured with a SCSI RAID controller when installed in an Intel Server chassis having a Hot-swap Backplane

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Products Affected
Any Intel server board installed in an Intel server chassis having a SCSI Hot-swap Backplane

Description
The Intel Server Diagnostics Utility should not be run if a server consists of **ALL** of the following:

- An Intel Server Board
- An Intel Server chassis with a SCSI Hot-swap Backplane
- Any SCSI RAID controller that utilizes the SAF-TE protocol

Running the Intel Server Diagnostics Utility with the above combination of components may cause unpredictable failures with the SCSI RAID subsystem. The failures will vary from one SCSI RAID vendor to the next. Some examples of failures may include, but are not limited to, the following:

1) The HSC test of the diagnostic utility may report a failure. (Non-critical failure)
2) The RAID controller may disable any configured RAID partitions when the Diagnostic Utility is run. (critical failure)

Root Cause
When the Diagnostics Utility detects a Hot-swap Backplane during its hardware scan, it must read the Hot Swap Controller (HSC) status registers. In order to read the status registers, the HSC must to go into a firmware transfer mode. This causes the HSC to momentarily go off-line. SCSI RAID controllers will interpret this event differently depending on how their firmware was written.

Some SCSI RAID controllers may ignore the event, since they poll the HSC several times before reacting. By the time they poll the HSC for the second time, it is already back on-line. Others may simply set a status register in the HSC causing the HSC diagnostic test to fail. The status register is reset once he system is rebooted. Some RAID controllers may see the event as an immediate catastrophic failure and cause any configured RAID partitions to go off-line. The last failure will require that the state of the RAID partition be restored using a utility supplied by the given RAID vendor. As long as the exact RAID partition configuration is restored, no data loss should result if a RAID partition is marked off-line.

Corrective Action / Resolution
Intel is investigating alternate methods for the Server Diagnostics Utility to read the status registers of the hot swap controller. If an alternate method is found, it will be incorporated into future releases of the server diagnostics utility for all of Intel's server boards.

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Workarounds

To prevent false diagnostic failures from occurring and possible failures within the SCSI RAID subsystem, Intel recommends removing any SCSI RAID controllers from the server before running the Server Diagnostics Utility.

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

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