This Technical Advisory describes an issue which may or may not affect the customer's product

Intel Technical Advisory

TA1032-01

5200 NE Elam Young Parkway
Hillsboro, OR 97124

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Intel® Modular Server MFSYS25V2, MFSYS25, MFSYS35 Excessive Physical Disk Migration to Spare Drive

Products Affected

MFSYS25V2	Intel® Modular Server MFSYS25V2
MFSYS25	Intel® Modular Server MFSYS25
MFSYS35	Intel® Modular Server MFSYS35

No other Intel® Server Systems or accessories are impacted by this issue.

Description

The MFSYS25V2 Storage Controller Module (SCM) will monitor hard drive health, including counts of medium errors and reallocated sectors, SMART errors and SAS errors. If the SCM believes a hard drive is functional but in poor health, and if a spare drive is available to the storage pool, then the SCM will migrate the failing drive's data to the spare (PDM). When migration is complete the SCM will replace the drive in the array with the spare, mark the removed drive as predictive failure alert (PFA) and stale (meaning it has out-of-date array data). The user would then normally replace the PFA drive, and then revert the spare or create a new spare.

Physical Disk Migration is occurring too easily and causing healthy drives to be marked Predictive Failure Alert and unnecessarily replaced.

Root Cause

The SCM tracks reallocated sectors and medium error counts, and compares to threshold values. If either count exceeds the threshold value, PDM is engaged if a spare is available. Currently these threshold values are set too low and can cause PDM to be triggered too easily.

Corrective Action / Resolution

Major drive vendors were engaged for recommendations. Latest HDDs and SSDs are designed to tolerate more reallocated sectors and errors, and are more capable of self-identifying and reporting any health issues through SMART and SAS errors. The SCM firmware will be updated to reduce the probability to generate false PDMs by not using reallocated sectors or medium errors as criteria for engaging PDM. PDM functionality still exists and a PDM can still occur on a drive SMART error. Current target date for availability of Unified Firmware Update for MFSYS25V2 incorporating this updated SCM firmware is September 30, 2013.

There will not be a UFU incorporating this updated SCM firmware for the MFSYS25, MFSYS35, or for customers running MFSYS25V2 with Intel® Modular Server Virtualization Manager. Recommendation is to remove all dedicated spares and global spares from the storage configuration on these systems to avoid this issue.

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

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