



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

Intel Technical Advisory

TA1056-01

5200 NE Elam Young Parkway
Hillsboro, OR 97124

April 23, 2014

Potential system shutdown on the Intel[®] Server System P4000IP Family and the Intel[®] Server Chassis P4000M Family during certain RAID operations

Products Affected

Product Code	MM#	Product Code	MM#
P4216IP4LHJC	916059	FUP8X25HSDKS	915819
P4216IP4LHKC	916057	FUP8X25HSDKO	915611
P4216XXMHJC	916974		
P4216XXMHGC	916309		
P4216XXMHGR	916311		

Description

The affected products above may experience system shutdown during certain RAID operations when one power rail is connected to two 8x2.5" Hot Swap Drive Cage Kits. This issue occurs when the peak current on this power rail is larger than 18 amperes for longer than 0.6 milliseconds. Certain RAID operations such as full initiation and consistency check cause concurrent operation of all HDDs, which may generate current demands in excess of the 18 amperes / 0.6 millisecond limitation.

Intel has determined that the following products with the serial numbers before workweek 14 of 2014 may be affected by this issue:

- The Intel[®] Server System products listed above OR
- The Intel[®] Server System products upgraded with the Hot Swap Drive Cage Kit FUP8X25HSDKS or FUP8X25HSDKO

Customers can identify the workweek and calendar year by referring to the following example (Figure-1). The three digits after "UP" in the Figure-1 decodes to calendar year 2012, workweek 24.

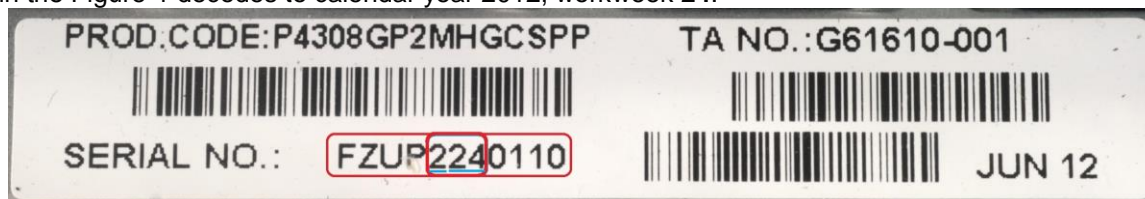


Figure-1: Workweek example

Root Cause

The power rail of the power distribution board (PDB) on the affected server systems has an Over Current Protection (OCP) circuit design that follows the standard 240VA regulation. This OCP circuitry will shut down the system when the peak current is larger than 18 amperes with the duration longer than 0.6 milliseconds. Intel has performed technical analysis and testing, and determined that the peak current is dependent on the HDD model, HDD quantity, and RAID configuration.

Corrective Action / Resolution

Intel has determined that there is no system shutdown issue on the affected products if only one Hot Swap Drive Cage Kit is connected to one power rail.

Intel has determined that the following three scenarios with the specific configuration will be potentially affected by this issue and recommends the corresponding corrective actions:

Scenario #	Scenario-1	Scenario-2	Scenario-3
Configuration	One additional Hot Swap Drive Cage Kit FUP8X25HSDKS is used to upgrade from 8x HDD configuration to 16x HDD configuration. The power connector P8/P9 (White) and P10/P11 (White) are connected to the HSBP-1 PWR port and HSPB-2 PWR port respectively (Figure-2).	The default configuration of two 8x 2.5" drive cages (16x HDD configuration). The power connector P8/P9 (White) and P10/P11 (White) are connected to the HSBP-1 PWR port and HSPB-2 PWR port respectively (see Figure-2).	One additional Hot Swap Drive Cage Kit FUP8X25HSDKO is used to upgrade from 16x HDD configuration to 24x HDD configuration.
Affected Products	FUP8X25HSDKS	P4216IP4LHJC P4216IP4LHKC P4216XXMHJC P4216XXMHGC P4216XXMHGR	FUP8X25HSDKO
Corrective Action	Reconnect the power connector P10 to the HSBP-1 PWR port and the power connector P7 to the HSPB-2 PWR port (Figure-3).		Intel will provide an updated PDB to customers starting from May 5 th , 2014. Please indicate you are calling regarding TA-1056-01, and have the following information when you call: serial number(s) for the system(s) needing the replacement part. You can refer to the related products service guide for how to replace the PDB. The Service Guide is available on http://www.intel.com/support/motherboards/server/sb/CS-033321.htm

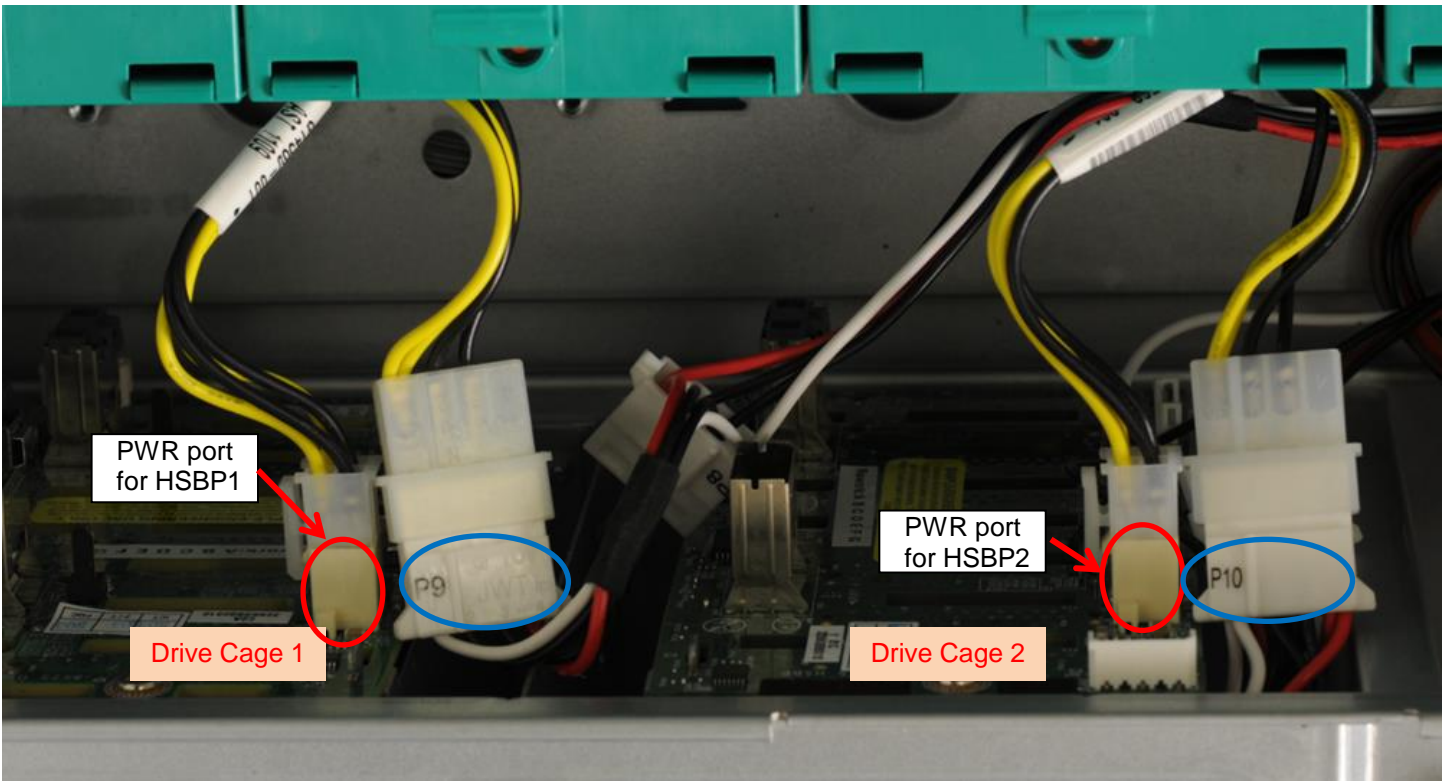


Figure-2: The Default Power Rail Connection

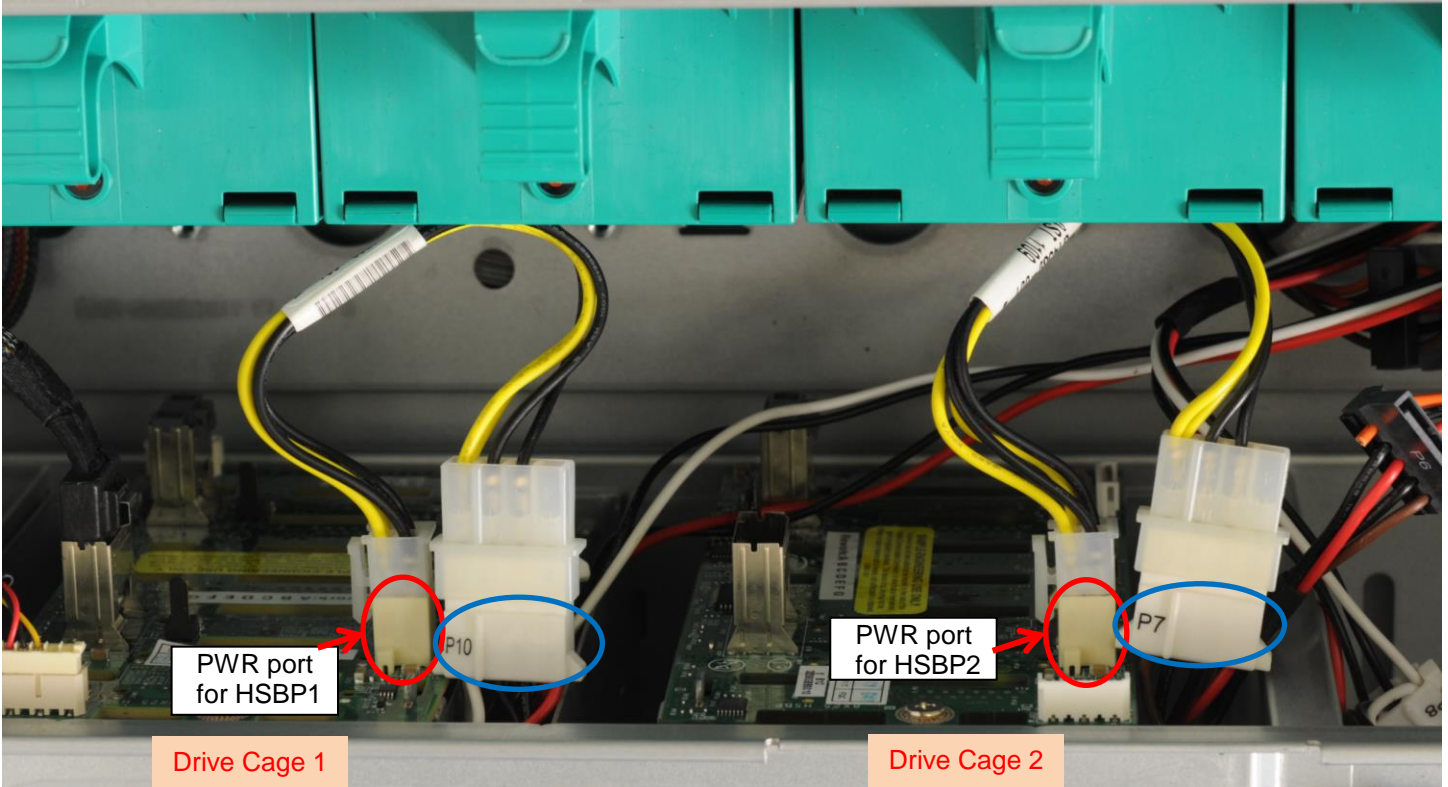


Figure-3: Recommendation of the Power Rail Connection

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

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