intel® Technical Advisory

TA 776-8

5200 NE Elam Young Parkway
Hillsboro, OR 97124

August 9, 2005

Intel® Server Board SE7520AF2 Experiencing Operating System Hang

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Products Affected

Product Code	MM #
SE7520AF2	859101, 867704
BAF2BB	856967, 867701, 868078
BAF2HPBB	857127, 867700, 868079
BAF2NSBB	868080
SC5300AF2	867231
SC5300AF2NA	867369, 869044
SC5300AF207	873675

Description

An operating system hang has been observed under specific configurations of the Intel® Server Board SE7520AF2. The system hang results in a blue screen or freeze of the OS graphical user interface requiring a system reset to recover. Not all SE7520AF2 server boards manifest this anomaly; those that do may take in excess of 2 days to exhibit the hang. The system hang has been observed to occur when the server board is configured with the Intel® Management Module (IMM) and the server board is running Microsoft Windows* 2003 Server operating system in idle mode (i.e. no application running). The event "Processor Internal error (IERR)" is logged in the System Event Log (SEL) and/or may be displayed on the screen during the next boot.

System configurations that do not utilize the IMM and do not utilize Intel® Server Management (ISM) software (or customer specific server management software) are not susceptible to this issue.

Root Cause

The system hang occurs due to clocks being turned off that enable the onboard PCI devices. These clocks are being turned off by a clock driver component that is inappropriately responding to SMBUS traffic that is not addressed to it. This response appears to be to very specific commands which might be generating a "false start" condition to the clock driver component. When this happens, the register contents of the clock driver component are changed – causing unpredictable component behavior. This typically results in some of the PCI or PCI-E clocks being shut down, which leads to the IERR condition and hang.

Workaround

Removal of the IMM significantly reduces the likelihood of the hang occurring. Intel recommends that, if possible, customers remove the IMM from their shipping system configurations.

Corrective Action / Resolution

Customers shipping Intel Server Board SE7520AF2 system configurations that do not utilize the IMM, and also do not utilize ISM software (or customer specific server management software), are not affected by this issue, and may continue to ship these configurations without concern.

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Customers shipping configurations that include the IMM and/or utilize ISM software (or customer specific server management software) are potentially affected by this issue. Customers should not continue to ship system configurations with IMM and/or ISM software. Intel recommends that, if possible, customers remove the IMM and ISM software from their shipping system configurations.

Intel has identified a hardware solution for this issue and has implemented this change in production. Customers who experience this issue may obtain a replacement product by contacting Intel through the normal warranty replacement process. Intel expects to have worldwide warranty replacement centers stocked with replacement Intel Server Board SE7520AF2 product starting July 22, 2005.

After the replacement hardware is integrated back to the system, perform a system event log clear, this can be done by going to BIOS setup <F2> and going to the "Server" menu -> "Event Log Configuration" and setting the "Clear All Event Logs" to "Enabled". Additionally, if using an IMM, enable the Processor Retest option, this can be done by going to the "Advanced" menu -> "Processor Summary" and then setting the "Processor Retest" to "Enabled". These should clear out the old events associated with the failure experienced with the affected boards.

Distributors wishing to return their Intel Server Board SE7520AF2 inventory may do so under a technical RMA. To initiate a technical RMA, distributors may contact the following toll free numbers, and reference TA 776.

Americas:	1-800-INTEL4U or 1-800-468-3548
EMEA:	00 44 1793 403063 (not toll free)
APAC:	604-859-3344
IJKK:	81-29-847-0993 or 81-29-847-5417

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

Enterprise Platforms & Services Division
Intel Corporation