

intel® Technical Advisory

TA-750-1

5200 NE Elam Young Parkway
Hillsboro, OR 97124

February 07, 2005

Installation of the Intel® Xeon™ Processor 4-pin fan to the Intel® Server Board SE7520AF2 3-pin fan headers

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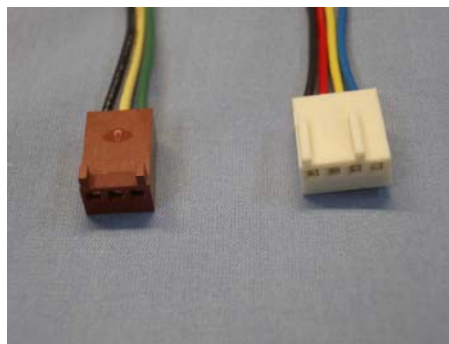
Products Affected

Product Code	MM #
SE7520AF2	859101, 867704
BAF2BB	856967, 867701, 868078
BAF2HPBB	857127, 867700, 868079
BAF2NSBB	864841

Description

The 64-bit Intel® Xeon™ processor with 800MHz system bus and 2MB of L2 cache is shipping with a new heatsink fan which has a 4-pin connector (refer to figure 1 below). Processor heatsink fans are included only on the active boxed processor SKUs, passive boxed processor SKUs will continue to ship a heatsink with no fan. When integrating the Intel® Server Board SE7520AF2 into the Intel® Server Chassis SC5300, the passive version (no fan) of the Intel® Xeon™ processor must be used. For instances where the server board is integrated into third party chassis the active heatsink solution may be required to meet the processor cooling requirements.

Figure 1. 3-pin and 4-pin heatsink fan connectors



The four signals routed to the new fan connector include the ground signal, fan power signal, fan tachometer signal and fan Pulse Width Modulation (PWM) signal. The latter is a new signal being added to control the fan speed for improved acoustics based on processor thermal demands.

The Intel® Server Board SE7520AF2 which supports the active and passive processors solutions enables active processor support via two 3-pin processor fan headers. In addition to continuing to support 3-pin fans, the server board will accommodate plugging the new 4-pin connector onto the 3-pin fan header with the PWM signal left unconnected (refer to Figures 2 and 3 below). Leaving the PWM signal unconnected will result in the processor heatsink fan running

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Figure 2. Processor 1 Fan Header

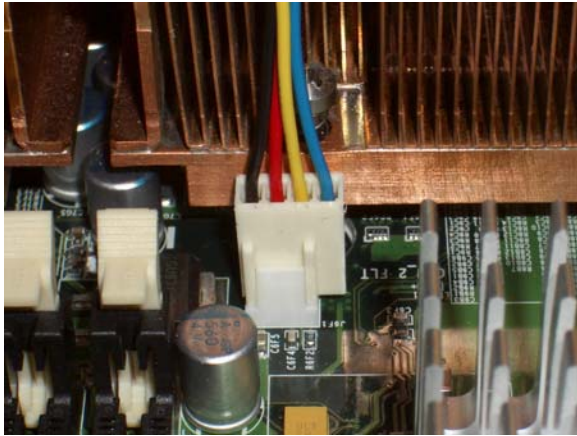
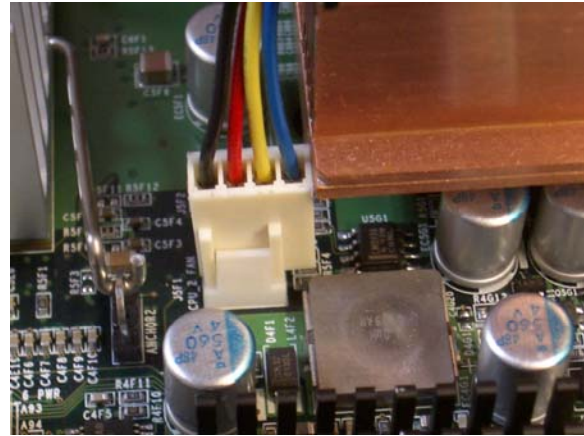


Figure 3. Processor 2 Fan Header



under thermistor control (functionality identical to the current 3-wire heatsink fan). No other adverse effects are expected on the performance of the processor or server baseboard.

Root Cause

The Intel® Server Board SE7520AF2 was designed originally for the 64-bit Intel® Xeon™ processor with 800MHz system bus and 1MB L2 cache. The active boxed SKU of this processor included a 3-pin fan connector. Processor support on the Intel® Server Board SE7520AF2 is being extended to include the new 64-bit Intel® Xeon™ processor with 800MHz system bus and 2MB of L2 cache without modification to the processor fan headers on the board.

Corrective Action / Resolution

Intel does not plan to modify the Intel® Server Board SE7520AF2 to support the PWM signal of the 4-pin heatsink fan connector of this new processor. In order to install the 4-pin heatsink fan connectors onto the board's 3-pin processor fan headers, install the fan connector such that the pins 1-3 are inserted into the header and pin 4 (PWM signal – blue wire) extends off the edge of the fan header (refer to Figures 2 and 3 above). Leaving the PWM signal unconnected will result in the processor heatsink fan running under thermistor control (functionality identical to the current 3-wire heatsink fan). No other adverse effects are expected on the performance of the processor or server baseboard.

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

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