intel® Technical Advisory

TA-0768-2

5200 NE Elam Young Parkway
Hillsboro, OR 97124

May 20, 2005

Intel® Management Module – Advanced Edition, unexpected screen refresh may occur when using Intel® Advanced Remote Server Control (KVM) console

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Products Affected

Intel® Management Module – Advanced Edition:
Product Code   AXXIMMADV, MM# 865669
                AXXIMMADVBULK, MM# 864396

The following server boards are capable of supporting the optional Intel Management Module:

Product Code	MM #
SE7520AF2	859101 or 867704
BAF2HPBB	857127 or 867700 or 868079
BAF2BB	856967 or 867701 or 868078
BAF2NSBB	864841 or 868080
SC5300AF207	866319
SE7520JR2SCSID1	861068 or 867828
SE7520JR2SCSID2	861067
SE7520JR2ATAD1	861061 or 867824
SE7520JR2ATAD2	861066
BJRDDR1BB	861064 or 867823 or 870221
BJRDDR2BB	861065 or 870233
BJRDDR1SATABB	861848 or 868003 or 870229
BJRDDR2SATABB	863332 or 870608
BBDBBSATA	863169 or 867819 or 870123
BBDBBSCSI	861103 or 867642 or 869325 or 870124
BBDVBB	858578 or 869326 or 870125
SE7520BD2	858586 or 867816
SE7520BD2SCSI	858594 or 857507
SE7520BD2V	863222 or 867817

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Description

The Intel® Management Module – Advanced Edition is an optional accessory for the server boards listed above. One feature of the Advanced Edition module is the ability to redirect Keyboard, Video and Mouse (KVM) output from the server to a remote workstation. The remote workstation uses the Intel® Advanced Remote Server Control console software included with Intel® Server Manager v8.30 to receive the KVM output. Users are able to operate the keyboard and mouse and view the video of the managed server as if they were located at the server location.

During validation of the Advanced Edition Module, Intel identified an intermittent condition resulting in the redirected video unexpectedly refreshing on the workstation. This condition has been seen on less than 5% of the Intel Management Module – Advanced Edition tested. The unexpected video refresh has been observed to occur at an average rate of once every 1 to 3 minutes when the internal server operating temperature in the area of the module is between 40°C and 50°C; however, some boards exhibited video refresh rates of once every 1 to 3 seconds when the internal server operating temperature in the area of the module is between 44°C/48°C. The local video displayed on the managed server is not affected and no other adverse effects are present on the managed server due to this anomaly.

When the video display is refreshed, the mouse and keyboard control is also delayed resulting in slow response times. The mouse control between the server and local workstation needs to be resynchronized by moving the local mouse pointer off and back onto the Advanced Remote Server Control screen. This is the normal resynchronization method but can add to the distraction if the screen refresh is frequent.

Root Cause

The condition has been determined to be a signal degradation on a dedicated Digital Video Interface (DVI) bus that connects to the baseboard connector used by the Advanced Edition module. This DVI bus is used only for KVM video redirection of the Advanced Edition module and does not affect the server board video operation. The signal degradation has been observed only in the temperature range in certain combinations of server board and Advanced Edition modules. An Advanced Edition module that experiences the condition when installed in one server board may not display the same condition when installed in another. Conversely, a server board exhibiting this condition with one Advanced module, may not exhibit it when another Advanced module is installed.

Of the three Intel server boards that support the optional Advanced Edition module, the Intel® Server Boards SE7520AF2, SE7520BD2 and SE7520JR2 (see Products Affected) not all experience the condition. Intel engineering has not seen the condition during any testing on the Server Board SE7520AF2.

Corrective Action / Resolution

A feature of the Intel Management Module – Advanced Edition is Intel Active Airflow Control. When using an Intel chassis, the system fan speed is based on ambient (external room) temperature and server internal temperature. As the temperature increases, the fan speed will gradually increase to keep the temperature at a moderate level. When used in an Intel chassis, the Active Airflow Control will help mitigate, but not eliminate, the refresh condition by helping to control internal temperatures.

As indicated above, the video refresh condition is seen only with certain combinations of server boards and Advanced Edition Modules. The first recommended step is to exchange the Advanced Edition modules. As previously stated, if an Advanced Edition module exhibits the condition in one system it may not exhibit it in another.

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Intel engineering tests have indicated that Intel® server Boards with the following PBA numbers or greater do not exhibit the refresh condition.

Product Code	MM #	PBA # (or greater)
SE7520AF2	859101 or 867704	C48105-602
BAF2HPBB	857127 or 867700 or 868079	C47886-602
BAF2BB	856967 or 867701 or 868078	C48105-602
BAF2NSBB	864841 or 868080	C80508-602
SC5300AF207	866319	C48105-602
SE7520JR2SCSID1	861068 or 867828	C53662-505
SE7520JR2SCSID2	861067	C53661-604
SE7520JR2ATAD1	861061 or 867824	C53660-406
SE7520JR2ATAD2	861066	C53659-304
BJRDDR1BB	861064 or 867823 or 870221	C53662-505
BJRDDR2BB	861065 or 870223	C53661-604
BJRDDR1SATABB	861848 or 868003 or 870229	C69650-406
BJRDDR2SATABB	863332 or 870608	C53659-304
BBDBBSATA	863169 or 867819 or 870123	C44689-705
BBDBBSCSI	861103 or 867642 or 869325 or 870124	C44686-705
BBDVBB	869326 or 870125	C44688-705
SE7520BD2	858586 or 867816	C44689-007
SE7520BD2SCSI	858594 or 857507	C44686-705
SE7520BD2V	863222 or 867817	C44688-705

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