intel. Technical Advisory

TA-0347-6

5200 NE Elam Young Parkway
Hillsboro, OR 97124

March 29, 2001

Intel® Server Platforms and Hard Drives Marked Off-Line.

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Products Affected

Product Combination	Product Code
SRKA4 Server Platform	SKODVHI, SKODVBK, SKODVBS, SKODVBKHI
SPKA4 Server Platform	SKOC2HI, SKOC2BS, SKOC2BSxx
ISP4400 Server Platform	ISP4400
L440GX+ Board with SC5000 Chassis	BOXL440GX, LWBB, LWBBS, KHDHSU, KHDHSRPU
L440GX+ Board with SR2000 Chassis	BOXL440GX, LWBB, LWBBX, ISP2150, ISP2150G, KB2HS
L440GX+ Board with SR2050 Chassis	BOXL440GX, LWBB, LWBBS, KB2HSU

Description
Intel has found that RAID controllers may simultaneously mark multiple drives as failed on the above listed platforms. Drives will not operate when marked as failed. This issue has been seen while running a disk stress test with various RAID controllers and Ultra 160 drives. The problem is potentially present in all HSC RAID configured applications, but it is believed that higher SCSI bus speeds aggravate the problem, i.e. Ultra 160 is at higher risk than Ultra 2.

Root Cause
The root of the problem is that the HSC and HSBP do not correctly capture and handle SCSI resets under intense SCSI bus activity.

Corrective Action
Production HSC firmware that resolves this issue is available for download. A matrix that includes the version number of production HSC firmware for each affected platform is included below for your convenience.

Platform/Chassis	HSC Version Number	Upgradeable?
L440GX+/SR2xxx	Production HSC v0.05 available for download now.	Yes.
SRKA4/SPKA4	Production HSC v0.12 available for download now.	Yes.
L440GX+/SC5000	Production HSC v0.05 available for download now.	Yes.

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Instructions for marking a hard drive back online after the HSC has erroneously marked it off-line.

Intel Adapter:

If the drive marked off-line has an OS installed:
1) Boot from the RAID CD or the ARCU floppy diskettes made from web packages.
   a) If booting from the CD-ROM
      i) Select '3' Advanced Configuration Utility.
2) Press 'Enter' to go to Storage Console.
3) Press 'Enter' to continue.
4) Press 'Enter' to continue.
5) Scroll down to physical disk and press 'Enter'.
6) Press the 'right arrow key' to move the cursor over to the Action column.
7) Press 'Enter' and select make drive online.
8) Repeat steps 6 & 7 until all drives are back online.
9) Use the arrow keys to move to the Logical array section and select 'View/Actions'.
10) Make sure arrays are back online. If not scroll over to the Action column and select make array online.

If the drive does not have an OS installed, you may use the above process to bring drives online or follow roughly the same steps from the OS version of Storage Console.

Mylex* Adapter (using EZassist):

1) Enter utility by pressing 'ALT-R' when prompted.
2) Select the correct controller that the drives are attached to.
3) Select 'Perform Administration on'.
4) Select 'Physical device'.
5) Select each drive that is offline and choose to make online.
6) Once this is done all arrays should come back online automatically.

Adaptec* Adapter:

1) Enter utility by pressing 'Ctrl-A' when prompted.
2) Drives should automatically come back online, but if not do the following:
   a) Press <Alt-F> to get to the pull down window.
   b) Select 'Read system config'.
      This should go out a perform bus scan bring the offline drives back online.

AMI* Adapter:

1) Enter the utility by pressing <Ctrl-M> during POST.
2) Using arrow keys select 'Objects'.
3) From the objects menu select 'Physical Drive'.
4) A listing of the drives connected and their state is displayed.
5) Proceed to highlight each drive that is off-line, press 'Enter', and choose 'Make Online'.
6) Once all drives are back online go back to the Objects option as in step 3.
7) Verify that all arrays came back online.

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ICP* Adapter:

1) Enter the utility by pressing <Ctrl-G> at the appropriate time.
2) Press 'Enter' after highlighting the adapter you wish to view.
3) Press <F4> to enter into advanced setup.
4) Highlight Configure Physical Devices and press 'Enter'.
5) If all the devices are not present or not listed as operational, select 'rescan bus'.
    a) Type '*' to scan the entire bus, as this should find all devices on the bus and spin them up.
6) Once all drives are returned to operational status, 'ESC' out of the utility and reboot the system.
7) Enter the utility again and verify all arrays are back in the operational (non-failed) state.

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

Server Product Division
Enterprise Servers Group
Intel Corporation

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