intel® Technical Advisory

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5200 NE Elam Young Parkway
Hillsboro, OR 97124

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SRCU21 / SRCU31 System Instability with Microsoft* Windows 2000

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Products Affected

Product Code	Description
BOXSRCU21	Intel® Server RAID Controller U2-1 (SRCU21)
BOXSRCU31	Intel® Server RAID Controller U3-1 (SRCU31)

Description

Systems utilizing a SRCU21 or a SRCU31 with a total of 64MB or greater of cache memory installed on the controllers and greater than 512MB of memory installed on the server system board may result in unstable Windows* 2000 operation. This instability will manifest itself as an inability to log into the system or successfully launch applications.

This issue becomes more pronounced after Server Pack 1 (SP1) is applied to Windows 2000.

Please note that the amount of RAID controller cache memory in a given system is the total of all the cache memory for all the controllers in the system. Thus, a system with two (2) SRCU21 adapters installed with 32MB of cache memory each would have total of 64MB of controller cache memory.

All systems configured as above may be subject to this issue.

Root Cause

This instability is caused by an issue with the Windows 2000 memory manager under the configuration describe above.

Specifically, the Windows* 2000 memory manager does not have enough memory page table entries (PTE) allocated for the system to function properly.

Corrective Action / Resolution

This issue will be resolved by a future update to the RAID adapter firmware for the affected products.

This TA will be updated once the dates of availability of the firmware is determined.

Once the adapter is updated with the firmware which addresses this issue, the workaround detailed below will no longer need to be implemented.

Workaround

Modifying the Windows* 2000 registry to increase the number of page table entries will resolve this issue. The following registry entry must be modified in order to increase the number of PTEs:

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Session Manager\Memory Management

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Set the value of SystemPages to REG_DWORD value of 0xffffffff.

This will instruct Windows* 2000 to use the maximum number of page table entries given the existing configuration.

A file (RAID_reg_update.reg) that automates the registry update process is provided on the following Intel® support websites for the products affected::

SRCU21: http://support.intel.com/support/motherboards/server/srcu21/
SRCU31: http://support.intel.com/support/motherboards/server/srcu31/

The registry update may be applied by copying the file to the affected system and double clicking on the file. Once the update is complete, reboot the system.

Intel recommends that the registry entry be modified by using the RAID_reg_update.reg file. The registry entry should be modified before applying Service Pack 1 (SP1) to the server system.

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

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