INTEL® RAID CONTROLLER UPGRADE AND INSTALLATION FOR MICROSOFT WINDOWS* 2000

Equipment Required

- 1.44 MB, 3.5" High Density Floppy Diskettes
- Computer with Internet browser, Internet access, and Floppy Disk Drive, for downloading and extracting files.
- Microsoft Windows* 2000 Operating System Installation CD-ROM.
- Intel® Server RAID Controller Manuals:
  - o RAID Quick Start Guide
  - o RAID Configuration Utility (RCU)
  - o Flash Update / Recovery Manual
- Intel Server RAID Controller
- Installation Server – (verify hardware compatibility of server configuration on support.intel.com)

Download Intel Firmware and Software

You will need to obtain the updated firmware for your server, as well as the latest firmware and drivers for your RAID controller and your OS. Listed, below, are the basic preparation steps.

NOTE	Intel software and driver files can be found at Intel's support website: http://support.intel.com/support/motherboards/server/.

1. **Download and extract the latest firmware for your server board and hot swap back plane.** Print your server's upgrade information and readme documents, which can be found on support.intel.com. Available firmware includes:

NOTE	Firmware and its installation vary based on the model of server board and chassis that you are using. See support.intel.com for details.

   a. Server Board Firmware –

   i. BMC (Baseboard Management Controller)

   ii. FRU/SDR (Field Replaceable Unit / Sensor Data Record)

   iii. BIOS

   b. Chassis Firmware –

   i. HSC (Hot Swap Controller) – The latest driver fixes the bug causing hard drives to be marked offline, Technical Advisories (TAs) differ per product, see support.intel.com to obtain the TA for your Server Board/Chassis configuration.

2. **Download and extract the latest RAID Controller firmware and its OS installation drivers.**   Specific files are listed, below.

   a. **RAID Controller Firmware Image and Update Utilities**.

b. **RAID Controller OS Driver (mini-port)**
Download the appropriate RAID Controller Installation driver for your OS (also known as the mini-port driver, I2O mini-port, mp) – The latest driver fixes the bug causing installation failures with the Service Pack 1 integrated build of Microsoft Windows* 2000. It should include the updated OEMSETUP.TXT file associated with TA-350-2.PDF.

NOTE	Review the Readme file accompanying your download. Follow the instructions to create the Mini-Port driver diskette.

c. **RAID Controller OS Driver (osm)**
Intel driver for your OS (also known as the runtime driver, OSM driver, _osm)

Warning	Use only the most current Intel-provided OSMs for your server. Using OSMs other than those provided by Intel may yield unpredictable results. See support.intel.com for detials.

d. **RAID Controller OS Utilities.** The RAID Controller Utility package for your selected OS should include the Storage Console, RAID monitor, etc.

e. **RAID Card Registry Update (reg_upd.exe)** – Fix for memory bug (64MB or greater on RAID controller and 512 MB on Server Board), see Technical Advisory TA-348-1 for details. Find this update by using the search tool on support.intel.com website OR viewing the Specifications and Errata for SRCU31 System Instability with Microsoft Windows* 2000 from the RAID home page.

NOTE	Review the Readme file accompanying your download. Extract the reg_upd.exe to a floppy disk.

Download Other Drivers and Software

1. **Locate and Download latest Windows* 2000 Service Pack.** Download the latest Service Pack, if you plan to install it.

2. **Locate and Download Other Drivers.** Download updated SCSI, network interface, or video drivers for the server board, if you plan to install them. However, Windows* 2000 does include drivers for these Intel Server Boards devices.

Update Firmware and Generate RAID Volume

1. **Update your Server Board Firmware.** Follow the instructions provided on the support.intel.com website and the support documents accompanying your downloaded files.

2. **Update the RAID Controller Firmware on the RAID card.** Follow the instructions from the Flash Update/Recovery Manual.

3. **Create your RAID Volume.** Follow the instructions from the RAID Configuration Utility (RCU) Manual.

Install OS and RAID Controller OS Drivers

1. **Install the RAID Controller Drivers for Your OS.** For Windows* 2000, follow the steps, listed below. For other Operating Systems, follow the instructions provided on the support.intel.com website.

   Install OS Mini-port Drivers During Microsoft Windows* 2000 Initial Install.

   a. Insert the Microsoft Windows* 2000 installation CD into the appropriate drive on the server and reboot the server.

   b. **Press <F6> as soon as the blue screen appears** to ensure that the Windows* 2000 RAID Mini-port Installation Driver diskette can be loaded when specifying **Other Diskettes**.

   c. Microsoft Windows* 2000 will detect the storage devices in your system. When device detection is complete, press <*S*> to specify additional storage devices.

   d. When prompted, insert the Windows* 2000 RAID Mini-port Installation Driver diskette that you created, into the floppy drive and press <Enter>.

   e. Use the arrow keys to select the appropriate mini-port driver for your RAID Controller.

   f. Press <Enter> to continue.

   g. After the driver information is loaded, leave the floppy diskette in the drive and press <Enter> to continue with the Windows* 2000 setup.

   h. Once the Windows* 2000 text-based installation is complete, and the system is ready to reboot, remove the floppy diskette.

   i. Leave the Windows* 2000 Installation CD in the drive and reboot the system to the hard drive to complete the OS installation.

   j. If you plan to remotely administer the RAID subsystem of this server, ensure that you install the following components during Windows* 2000 installation:

      i. TCP/IP

      ii. Internet Information Services

   k. After the installation is complete, remove the Windows* 2000 CD and reboot.

   Install the Registry Update

   a. After system reboot, insert the Registry Update floppy diskette into the floppy drive (A:).

b. Open a window to the A: drive and double click on the **RAID_Reg_Update.reg** file.

c. The Windows* 2000 registry will automatically be updated to allow large amounts of installed RAM.

d. After the registry is updated, remove the Registry Update floppy diskette and reboot the server.

Install the OSM Driver

a. Insert the RAID Controller OSM floppy diskette into the floppy drive.

b. Extract the OSM driver package to a folder on the local hard drive.

c. Remove the floppy diskette.

d. From the folder on your hard drive, run the **OSM Setup** program. The OSM runtime driver will replace the mini-port driver and update older drivers if they exist.

NOTE	During the Setup, read the **Information** text and note the path for the driver installation directory. You may need to use this information after reboot.

e. As prompted, reboot the system.

f. Upon reboot, the RAID controller may be detected as a new hardware device. If so:

   i. Use the Wizard to search for suitable drivers.

   ii. Select the location by directing the request to the path of the driver installation directory.

   iii. Select the **I2odisk.inf** file.

   iv. **Finish** the installation and reboot.

2. **Install the latest Windows* 2000 Service Pack.** If it was not included as part of you initial installation process, it is appropriate to install the latest Windows* 2000 Service Pack at this point.

Install RAID Configuration Utilities.

1. **Install the RAID Controller OS Utilities**. Follow the instructions provided on the support.intel.com website to extract the installation files to the local hard drive and install the RCU.

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