



IBM @server BladeCenter HS20 Type 8832 IDE RAID

This *Technical Update* contains instructions for configuring an IDE redundant array of independent disks (RAID) array for your IBM® @server BladeCenter™ HS20 Type 8832 blade server. Keep this *Technical Update* with your blade server documentation for future reference.

Two IDE hard disk drives in the blade server can be used to implement and manage RAID level-0 (stripe) and RAID level-1 (mirror) arrays under operating systems that are listed on the ServerProven® list at <http://www.ibm.com/pc/compat/>. For your blade server, you must configure IDE RAID in the following areas:

- In BIOS, using the Configuration/Setup Utility program, and the MegaRAID IDE Setup Utility program, which is part of the firmware in your server
- In your operating system, using the operating-system configuration tools and the MegaRAID IDEal Software RAID utility

Important: You must create the RAID array *before* you install the operating system on your blade server.

Complete the following steps to set up an IDE RAID array on your blade server.

Attention: Information that is stored on the hard disk drives will be affected when the drives become part of a RAID array. If the hard disk drives contain any information that you want to keep, back them up to another storage device.

1. Obtain the IDE RAID documentation and device drivers for your operating system from the IBM Support Web site at <http://www.ibm.com/pc/support/>.
2. Review your operating-system and MegaRAID IDE documentation for information about IDE hard disk drive RAID configuration. The latest version of the MegaRAID IDEal Software RAID Utility program and documentation are available for download from the IBM Support Web site at <http://www.ibm.com/pc/support/>.
3. Make sure that the operating system that you plan to install supports IDE RAID. Operating systems that support IDE RAID on your server type are listed on the ServerProven list at <http://www.ibm.com/pc/compat/>.
4. Make sure that two IDE hard disk drives are installed in the blade server. See the *Installation and User's Guide* for your blade server on the IBM *BladeCenter Documentation CD* for hard disk drive installation instructions.

Important: To avoid potential performance and reliability problems when configuring or replacing hard disk drives in a mirrored RAID configuration, make sure that the storage capacities and speeds of the hard disk drives are identical.

5. Create a diskette or CD containing the IDE RAID device drivers for your operating system. The latest IDE RAID device drivers for supported operating systems are available for download from the IBM Support Web site at <http://www.ibm.com/pc/support/>.
6. Complete the following steps to enable IDE RAID in BIOS using the Configuration/Setup Utility program:
 - a. Turn on the blade server and watch the monitor screen.
 - b. When the message Press F1 for Configuration/Setup appears, press F1.
 - c. Select **Devices and I/O Ports** from the Configuration/Setup Utility main menu; then, select **IDE Configuration**.
 - d. Make sure that the IDE RAID feature is **Enabled** (the default setting is **Disabled**).
 - e. Select **Save Settings** from the Configuration/Setup Utility main menu.
 - f. Exit the Configuration/Setup Utility program, making sure that you save the settings. The blade server restarts automatically after you exit the Configuration/Setup Utility program.

7. Complete the following steps to configure IDE RAID in BIOS using the MegaRAID IDE Setup Utility program (see the MegaRAID IDE RAID documentation on the *Resource* CD for detailed information):
 - a. When the message Press Ctrl+M to run MegaRAID IDE Setup Utility appears, press Ctrl+M.
 - b. From the MegaRAID IDE Setup Utility program, select the automatic configuration option (F1 or F2) for the type of RAID array you are setting up. You can also manually configure the RAID array (F4) using the MegaRAID IDE Setup Utility program; however, your blade server supports only RAID level-0 (stripe) or RAID level-1 (mirror). Attempting to manually configure any other type of RAID array will cause an error.
 - c. Select **Initialize Array**; then, press Enter. Using the Spacebar, select logical drives that will be part of the RAID array.
 - d. Save changes and exit (F10) the MegaRAID IDE Setup Utility program. The blade server restarts automatically after you exit the MegaRAID IDE Setup Utility program. Status messages that are displayed during restart indicate status of the RAID array.
8. Install the operating system on your blade server, making sure that you install the correct IDE RAID device drivers. See the *Installation and User's Guide* for your blade server on the *IBM BladeCenter Documentation* CD and the documentation that comes with your operating system for information and instructions. The latest IDE RAID device drivers and NOS installation instructions for supported operating systems are available for download from the IBM Support Web site at <http://www.ibm.com/pc/support/>.

Note: Some operating systems allow device drivers to be installed only during a short period of time during operating-system setup; make sure you pay attention to all messages that are displayed. Use care when performing an unattended operating-system installation for IDE RAID.

9. Perform additional IDE RAID configuration that is required for your operating system or application, using the operating-system configuration tools and the MegaRAID IDEal Software RAID utility. See your operating-system documentation for information about using the operating-system tools for IDE hard disk drive RAID configuration. The MegaRAID IDEal Software RAID utility and information about its installation and use are on the *Resource* CD that comes with your server. The latest version of the MegaRAID IDEal Software RAID utility and IDE RAID device drivers for supported operating systems are available for download from the IBM Support Web site at <http://www.ibm.com/pc/support/>.

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