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Install the Server Operating System

Microsoft* Windows* Server 2003/
Microsoft* Windows* 2000
Advanced Server Installation

IMPORTANT: Complete the steps on the reverse side before beginning your operating system installation.

Step A: Install Microsoft* Windows* Server 2003 or Microsoft* Windows* 2000 Advanced Server

- IMPORTANT: When the blue setup screen first appears, press <F6>.
1. Boot the system with the Microsoft* Windows* 2003/Microsoft* Windows* 2000 Advanced Server CD-ROM.
 2. Press <F6> as soon as the blue installation screen appears during mass storage detection.
 3. When prompted to specify a mass storage controller:
 - Select "S" to specify additional storage devices.
 - Insert Microsoft* Windows* Server 2003/Microsoft* Windows* 2000 Advanced Server Installation driver diskette (created in Step 1 on the other side of this sheet).
 - Press <Enter> to select the "Intel RAID" driver and continue with the Windows installation.

Step B: Install and Launch the Storage Console/Storage Console+ Utilities

1. Boot the operating system and login with administrator rights.
2. Insert the Intel® RAID Controller SRCZCR Resource CD.
3. Select "Install" and follow the on-screen instructions to install the Storage Console and Storage Console+ utilities, and the runtime driver.
4. Launch the Storage Console and/or Storage Console+ utilities by selecting "Start / Programs / RAID Tools." Select "Storage Console" or "Storage Console+."
5. The next time you boot your system, you may be prompted by a prompt that says "Finish" or "Next" to complete the installation.

OR

Red Hat* Linux 8.0 Installation

IMPORTANT: Complete the steps on the reverse side before beginning your OS installation. If you are installing a version other than Red Hat* Linux 8.0, refer to: <http://support.intel.com/support/motherboards/server> for installation instructions.

Step A: Install Red Hat* Linux

Read the Red Hat* Linux documentation to understand the disk space / size requirements for the Red Hat* Linux 8.0.

1. Boot the system with the Red Hat* Linux 8.0 CD-ROM
2. At the boot prompt, press <Enter>.
3. Follow the on-screen instructions to complete the installation. The RAID controller driver will be automatically detected and installed.

Note: When an Intel RAID controller is installed, a kernel patch must be applied for the system to operate and shut down correctly. The instructions and patch file name below are based on the patch available at the time this document was written. The name of the patch file and the instructions may change at the discretion of Red Hat. For the latest patches, see the Red Hat download site.
4. Download the kernel patch `kernel-smp-2.4.18-18.8.0.i686.rpm`
5. Type: `rpm -ivh kernel-smp-2.4.18-18.8.0.i686.rpm` and press <Enter> to install the patch file.

Note: Depending on your system configuration, you may need kernel patch source files to recompile a driver that will work with the new kernel. See the Red Hat download site for source files and other information.
6. Modify the loader configuration to select the kernel patch as the default kernel.

Step B: Install and Launch the Storage Console Monitoring Utility

1. Copy `StorCon-x.xx.gz` from the Resource CD to a directory in the Linux system by typing the following at the prompt:


```
cp /mnt/cdrom/Linux/install/storcon-x.xx.gz /<directory of your choice> <Enter>
```
2. Move to the folder where you copied the StorCon file and then unpack StorCon by typing:


```
gunzip storcon-x.xx.gz
```
3. Rename StorCon by typing:


```
mv storcon-x.xx storcon
```
4. Change the permissions on the storcon file by typing:

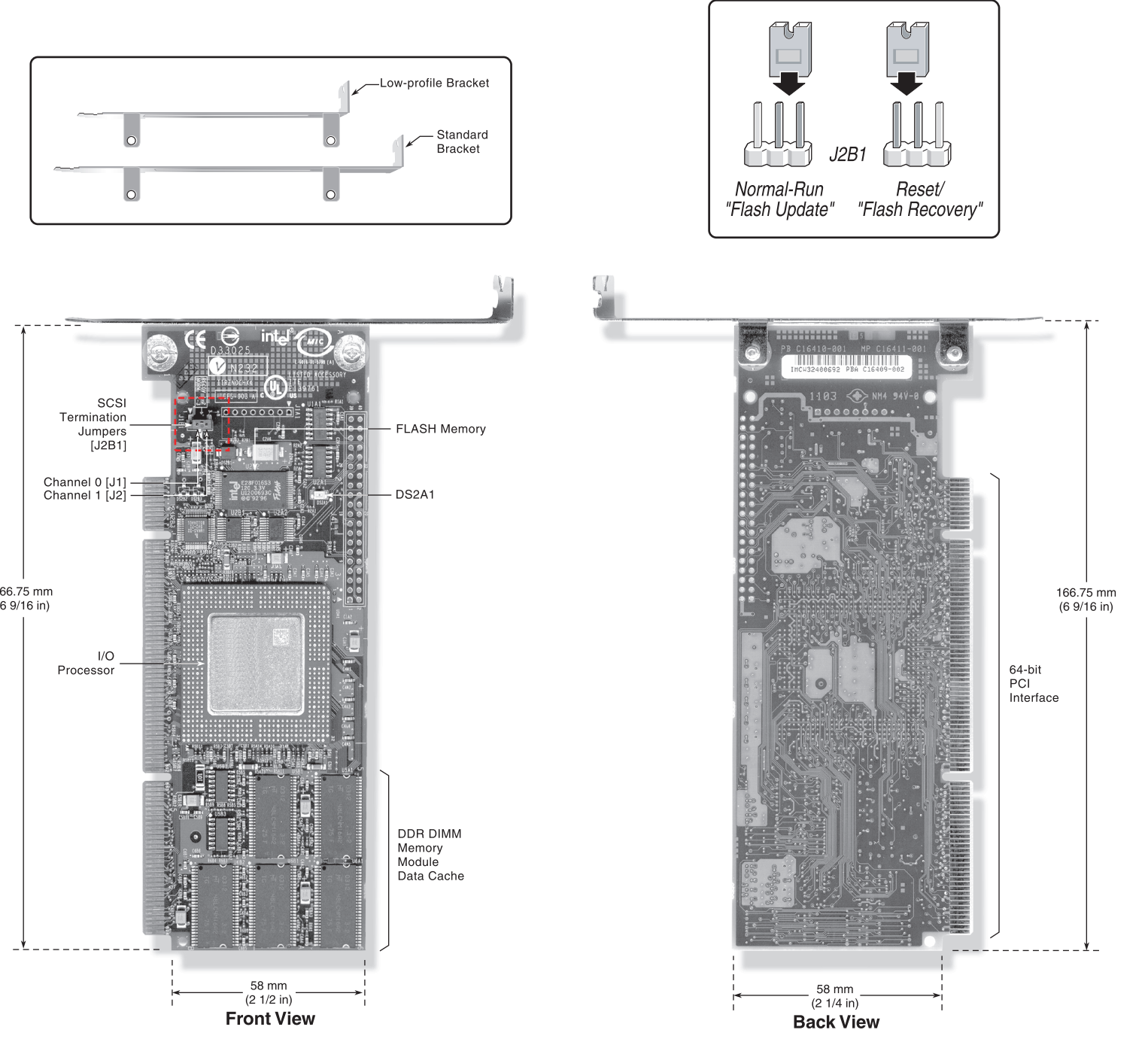

```
chmod 700 storcon
```
5. Copy StorCon to a directory in the search path by typing:


```
cp storcon /usr/bin
```
6. Optional: When using StorCon from the Linux system console, the StorCon screen can be overwritten by system / kernel log messages. To avoid this, execute the following command for a console prompt session:


```
dmesg -n 1
```
7. This step is not necessary if StorCon is used from an X-windows terminal window. When you are finished with StorCon, return to the default level with the command:


```
dmesg -n 7
```

Intel® RAID Controller SRCZCR Diagram



Note: The Intel® RAID Controller SRCZCR comes with the firmware installed on the board. If for any reason the firmware becomes corrupt, these jumpers are used for firmware recovery. Refer to the Hardware and Software Guides for detailed instructions on the firmware recovery procedure.

Choosing the Right RAID Level

RAID 0		<p>Minimum Disks: 2</p> <p>Read performance: Excellent</p> <p>Write performance: Excellent</p> <p>Fault tolerance: None</p>	<p>Striping of data across multiple drives in an array. This provides high performance, but no data protection.</p>
RAID 1		<p>Number of Disks: 2</p> <p>Read performance: Excellent</p> <p>Write performance: Good</p> <p>Fault tolerance: Excellent</p>	<p>Disk mirroring, meaning that all data on one disk is duplicated on another disk. This is a high availability solution, but only half the total disk space is usable.</p>
RAID 4		<p>Minimum Disks: 3</p> <p>Read performance: Excellent</p> <p>Write performance: Fair</p> <p>Fault tolerance: Good</p>	<p>Striping with parity. Data information are striped amongst the disk drives as in RAID 0. Additionally, the controller calculates redundancy data (parity information) which are stored on a separate disk drive. A good compromise of performance, fault tolerance, and drive space utilization.</p>
RAID 5		<p>Minimum Disks: 3</p> <p>Read performance: Excellent</p> <p>Write performance: Fair</p> <p>Fault tolerance: Good</p>	<p>Striping with parity. Data and parity information are spread among each drive in the array. A good compromise of performance, fault tolerance, and drive space utilization.</p>
RAID 10		<p>Minimum Disks: 4</p> <p>Read performance: Excellent</p> <p>Write performance: Good</p> <p>Fault tolerance: Excellent</p>	<p>Disk mirroring and data striping that achieves a balance between the increased data availability inherent in RAID 1 and RAID 5 and the increased read performance inherent in disk striping (RAID 0). Each drive in the array is duplicated. This level array offers high data transfer advantages of striped arrays and increased data accessibility.</p>

Information

Information for the Intel® RAID Controller SRCZCR, including specifications, manuals, and updates can be found at: <http://support.intel.com>

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- Intel Server RAID Controllers
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Current product information on server building blocks can be found at: www.intel.com/go/serverbuilder