What is RAID?
Creating a volume with SoftRAID
Error Reporting in SoftRAID
Using SoftRAID as a backup solution
How is SoftRAID different than AppleRAID
Questions
Redundant Array Independent Disks
**Non-RAID** A non-RAID or standard volume consists of one disk drive. The speed of reading data off of a disk is physically constrained by how fast the reading mechanism, or disk head, can read data from the spinning disk.
**Stripe (RAID 0)** If the data, instead of being clustered on one disk, is evenly distributed over two or more disks, each disk head can be reading or writing a part of the data simultaneously. A Stripe volume distributes the data across all the disks. The more disks used in a volume, the faster the reading and writing.
**Mirror (RAID 1)** When all of the data is written to each of the disks, a Mirror volume is created. This makes the backup of data an ongoing process. If one disk fails, the data is intact on the other disks in the volume. SoftRAID 3 enhances RAID 1 by allowing more than two disks in a Mirror volume and by making reads as fast as those from a RAID 0 Stripe volume.
### Disks

<table>
<thead>
<tr>
<th>Disk Type</th>
<th>Details</th>
</tr>
</thead>
</table>
| ATA bus 1, ID 0 (Bay 4) | size: 232 GB · free: 232 GB  
  HDT722525DLA380 v.44OA96A  
  no errors |
| ATA bus 1, ID 1 (Bay 3) | size: 465 GB · free: 465 GB  
  HDS725050KLA360 v.K2AOA10C |
| ATA bus 1, ID 2 (Bay 2) | size: 465 GB · free: 465 GB  
  HDS725050KLA360 v.K2AOA10C |
| ATA bus 1, ID 3 (Bay 1) | size: 232 GB · free: 128 MB  
  WDC WD2500JS-41SG80 v.20.06C04 |

### Volumes

- Macintosh HD (10.4.8 startup)  
  232 GB · HFS+ (journaled)
<table>
<thead>
<tr>
<th>Disks</th>
<th>Volumes</th>
</tr>
</thead>
</table>
| ATA bus 1, ID 0 (Bay 4)  
size: 232 GB • free: 0.50 KB  
HDT722525DLA380 v.V44OA96A  
no errors | Macintosh HD (10.4.8 startup)  
232 GB • HFS+ (journaled) |
| ATA bus 1, ID 1 (Bay 3)  
size: 465 GB • free: 265 GB  
HDS725050KLA360 v.K2AOA10C  
no errors • data disk | New Volume  
232 GB • HFS+ (journaled)  
non-RAID • no errors |
| ATA bus 1, ID 2 (Bay 2)  
size: 465 GB • free: 265 GB  
HDS725050KLA360 v.K2AOA10C  
no errors • data disk | Stripe Volume  
400 GB • HFS+ (journaled)  
Stripe • no errors |
| ATA bus 1, ID 3 (Bay 1)  
size: 232 GB • free: 128 MB  
WDC WD2500JS-41SGB0 v.20.06C04 | Optimized for Digital Video  
created: 2007-01-17 10:08:26 PST  
i/o requests: 227  
i/o errors: 0 |
## Disks

<table>
<thead>
<tr>
<th>ATA bus 1, ID 0 (Bay 4)</th>
<th>ATA bus 1, ID 1 (Bay 3)</th>
<th>ATA bus 1, ID 2 (Bay 2)</th>
<th>ATA bus 1, ID 3 (Bay 1)</th>
<th>FireWire bus 0, ID 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDT722525DLA380 v.V44OA96A</td>
<td>HDS725050KLA360 v.K2AOA10C</td>
<td>HDS725050KLA360 v.K2AOA10C</td>
<td>WDC WD2500JS-41SGB0 v.20.06C04</td>
<td>WDC WD1600JB-22GVA0 v.08.0</td>
</tr>
<tr>
<td>no errors • primary disk</td>
<td>no errors • secondary disk</td>
<td>no errors</td>
<td>no errors</td>
<td></td>
</tr>
</tbody>
</table>

## Volumes

- **Macintosh HD (10.4.8 startup)**
  - 232 GB • HFS+ (journaled)
- **Mirror Volume**
  - 20.0 GB • HFS+ (journaled)
  - Mirror • no errors
### Disks

<table>
<thead>
<tr>
<th>Disk Type</th>
<th>ID</th>
<th>Size</th>
<th>Free</th>
<th>SN</th>
<th>Format</th>
<th>Errors</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATA bus 1, ID 0</td>
<td>Bay 4</td>
<td>232 GB</td>
<td>212 GB</td>
<td>VDB41BT4DJ6LXC</td>
<td>GPT (for Intel)</td>
<td>no errors</td>
</tr>
<tr>
<td>ATA bus 1, ID 1</td>
<td>Bay 3</td>
<td>465 GB</td>
<td>445 GB</td>
<td>HDS725050KLA360</td>
<td>GPT (for Intel)</td>
<td>no errors</td>
</tr>
<tr>
<td>ATA bus 1, ID 2</td>
<td>Bay 2</td>
<td>465 GB</td>
<td>445 GB</td>
<td>HDS725050KLA360</td>
<td>GPT (for Intel)</td>
<td>no errors</td>
</tr>
<tr>
<td>ATA bus 1, ID 3</td>
<td>Bay 1</td>
<td>232 GB</td>
<td>128 MB</td>
<td>WDC WD2500JS-41SGB0</td>
<td>GPT (for Intel)</td>
<td>no errors</td>
</tr>
<tr>
<td>FireWire bus 0</td>
<td>ID 0</td>
<td>149 GB</td>
<td>128 GB</td>
<td>WDC WD16 00JB-22GVA0</td>
<td>GPT (for Intel)</td>
<td>no errors</td>
</tr>
</tbody>
</table>

### Volumes

<table>
<thead>
<tr>
<th>Volume Type</th>
<th>Size</th>
<th>Format</th>
<th>Errors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Macintosh HD</td>
<td>232 GB</td>
<td>HFS+ (journaled)</td>
<td></td>
</tr>
<tr>
<td>Mirror Volume</td>
<td>20.0 GB</td>
<td>HFS+ (journaled)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>missing secondary disk</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>read-only secondary</td>
<td></td>
</tr>
</tbody>
</table>
Why is SoftRAID better than AppleRAID?

- Much better user interface
- Report all read / write errors to the user
- Log all read / write errors to the system.log file
- Error counts saved to disk
- Easy to determine if a disk is failing and which disk it is
- Can convert existing Apple non-RAID and AppleRAID volumes to SoftRAID
- Much better facilities for managing mirror volumes
- No need to use command line interface to gain access to all the features
- Tech support is best in the business (often help users recover corrupted volumes caused by hardware failure)
- Frequent releases for bug fixes, work-arounds for OS bugs and feature refinements
Can RAID be Used for Backup?

Home Sweet Home
Automate Your Place
Real-world Integration

Xcode Menu Scripts
Jumbo Frame Network
Introduction to Scripting
Microsoft Word
Using the R Statistics Package
Logs: Everything you need to know about your system

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