REPLACING A PHYSICAL HARD DRIVE IN A TWO-WAY-MIRRORED "STORAGE SPACE" IN "WINDOWS 8"
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"Storage Spaces" is a feature in "Windows 8.." that provides for various hard drive enhancements including real-time, automatic drive mirroring so that two hard drives always contain the same data files and folders in real time. Here is the procedure for replacing a physical hard drive in a two-way-mirrored "Storage Space".
REPLACING A PHYSICAL HARD DRIVE IN A TWO-WAY-MIRRORED "STORAGE SPACE"
Replacing A Physical Hard Drive In A.."Storage Space" (continued)

- You cannot logically remove a physical hard drive from a mirrored "Storage Space" unless you first add in another hard drive to the "Storage Pool":
Replacing A Physical Hard Drive In A.."Storage Space" (continued)

Step 0: Physically remove one of the hard drives from a two-way-mirrored "Storage Space". (If the activity light of the hard drive is blinking, wait for it to stop blinking.)
Replacing A Physical Hard Drive In A.. "Storage Space" (continued)

Step 1: Start "File Management" and check to see if you can still access the "Storage Space". If you are unable to access the "Storage Space", start "Disk Managment", then assign a drive letter to the "Storage Space".
Replacing A Physical Hard Drive In A.."Storage Space" (continued)

Step 2: Attach a USB 2, USB 3, eSATA, or SATA hard drive to your computer.

Step 3: Press Windows + x.

Step 4: Click on "Control Panel" in the pop-up "Power Users Menu".
Replacing A Physical Hard Drive In A.."Storage Space" (continued)

Step 5: Locate and double-click on the "Storage Spaces" applet.
Step 6: A "Storage Spaces" window will be displayed.
Step 7: Click on "Add drives".
Manage Storage Spaces

Use Storage Spaces to save files to two or more drives so that your files remain safe, even when a drive fails. Storage Spaces also enables you to add more drives if you run low on capacity.

Storage Pool

- Using 5.00 GB of 1.58 TB pool capacity
- Unhealthy drives; check drive health

Create a storage space
Add drives
Rename pool

Warning

- Storage Spaces
  - StorageSpace07 (S:)
    - Two-way mirror
    - 814 GB logical size
    - Using 4.00 GB
  - Physical Drives
    - ST3100033AS USB Device
      - Attached via an unrecognized connection
      - 930 GB
      - 0.26 % used
    - Warning
      - Selected for data reallocation
    - Seagate FreeAgent Pro Ultra
      - Attached via USB
      - 698 GB
      - 0.35 % used
      - OK

See also

File History
BitLocker Drive Encryption
Replacing A Physical Hard Drive In A.."Storage Space" (continued)

Step 8: A "Select drives to add to the storage pool" window will be displayed:
Select drives to add to the storage pool

<table>
<thead>
<tr>
<th>Formatted drives</th>
</tr>
</thead>
<tbody>
<tr>
<td>The following drives might contain files. If you use a formatted drive to create a storage pool, Windows permanently deletes all the files on that drive. You can't recover the files by using the Recycle Bin.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Drive Name</th>
<th>Status</th>
<th>Volume Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST310005 28AS USB Dev...</td>
<td>Attached via USB</td>
<td>931 GB</td>
</tr>
<tr>
<td>Disk 8</td>
<td>Online</td>
<td></td>
</tr>
<tr>
<td>WDC WD30EZR5-00J99B...</td>
<td>Attached via RAID</td>
<td>2.72 TB</td>
</tr>
<tr>
<td>Disk 0</td>
<td>Online</td>
<td></td>
</tr>
</tbody>
</table>

- [ ] View files
- [ ] Take offline
Replacing A Physical Hard Drive In A.."Storage Space" (continued)

Step 9: Place a checkmark for the hard disk drive that you wish to add to the storage pool:
Select drives to add to the storage pool

Formatted drives

⚠️ The following drives might contain files. If you use a formatted drive to create a storage pool, Windows permanently deletes all the files on that drive. You can’t recover the files by using the Recycle Bin.

- **ST3100052AS USB Device**
  - Attached via USB
  - Online
  - 931 GB
  - View files
  - Take offline

- **WDC WD30EZRS-00J99B0**
  - Attached via RAID
  - Online
  - 2.72 TB
  - View files
  - Take offline
Replacing A Physical Hard Drive In A.."Storage Space" (continued)

Step 10: Click on the "Add drives" button:
Select drives to add to the storage pool

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<table>
<thead>
<tr>
<th>Drive</th>
<th>Attached via</th>
<th>Type</th>
<th>Status</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST310005 28AS USB Device</td>
<td>USB</td>
<td>Online</td>
<td>View files</td>
<td></td>
</tr>
<tr>
<td>931 GB</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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</tr>
<tr>
<td>2.72 GB</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **View files**
- **Take offline**
Step 11: "Storage Spaces" will start "Repairing.." the newly-added hard drive by copying data files and folders from the existing hard drive to the newly-added hard drive.
Manage Storage Spaces

Use Storage Spaces to save files to two or more drives so that your files remain safe, even when a drive fails. Storage Spaces also enables you to easily add more drives if you run low on capacity.

<table>
<thead>
<tr>
<th>Storage Pool</th>
<th>Warning</th>
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</thead>
<tbody>
<tr>
<td>Using 5.25 GB of 2.49 TB pool capacity</td>
<td>Unhealthy drives; check drive health</td>
</tr>
<tr>
<td></td>
<td>Create a storage space</td>
</tr>
<tr>
<td></td>
<td>Add drives</td>
</tr>
<tr>
<td></td>
<td>Rename pool</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Warning</td>
</tr>
<tr>
<td></td>
<td>Repairing (12%)</td>
</tr>
<tr>
<td></td>
<td>Create a storage space</td>
</tr>
<tr>
<td></td>
<td>Add drives</td>
</tr>
<tr>
<td></td>
<td>Rename pool</td>
</tr>
</tbody>
</table>

- **StoragePool:** StorageSpace07 (S:)
  - Two-way mirror
  - 814 GB logical size
  - Using 4.00 GB

- **Physical Drives:**

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- **File History**
- **BitLocker Drive Encryption**
Step 12: Click on "Remove" for the hard drive that you wish to logically remove from the "Storage Space".
Manage Storage Spaces

Use Storage Spaces to save files to two or more drives so that your files remain safe, even when a drive fails. Storage Spaces also enables you to easily add more drives if you run low on capacity.

**Storage Pool**

- **Using 5.25 GB of 2.49 TB pool capacity**
- **Warning**: Unhealthy drives; check drive health

**Storage Spaces**

- **StorageSpace07 (S:)**
  - Two-way mirror
  - 814 GB logical size
  - Using 4.00 GB

**Physical Drives**

- **ST310005 28AS USB Dev:**
  - Attached via USB
  - 930 GB
  - 0.26% used
- **ST310003 33AS USB Dev:**
  - Attached via an unrecognized method
  - 930 GB
  - 0.02% used
- **Seagate FreeAgent Pro U...**
  - Attached via USB
  - 698 GB
  - 0.35% used

**Warning**

- **View files**
- **Rename**
- **Delete**

**Warning**

- **Warning**: Repairing (37%)

**Warning**

- **Warning**: Selected for data reallocation

**Rename**

- **Rename**
- **Remove**
Replacing A Physical Hard Drive In A.."Storage Space" (continued)

Step 13: Click on the "Remove" button:
Confirm removal of the drive

Drive to remove:

ST310003 33AC USB Device
Attached via an unrecognized connection
930 GB
0.02% used

Warning: Selected for data reallocation

Remove drive
Cancel
Replacing A Physical Hard Drive In A.."Storage Space" (continued)

Step 14: Click on the downward pointing caret to the left of "Physical Drives":
Manage Storage Spaces

Use Storage Spaces to save files to two or more drives so that your files remain safe, even when a drive fails. Storage Spaces also enables you to easily add more drives if you run low on capacity.

Storage Pool

Using 5.00 GB of 1.58 TB pool capacity

Storage Spaces

- StorageSpace07 (S:) Two-way mirror
  - 814 GB logical size
  - Using 4.00 GB

Physical Drives
Replacing A Physical Hard Drive In A. "Storage Space" (continued)

Step 15: Note that the hard drive that you wanted logically-removed from the "Storage Space" is no longer displayed:
Manage Storage Spaces

Use Storage Spaces to save files to two or more drives so that your files remain safe, even when a drive fails. Storage Spaces also enables you to easily add more drives if you run low on capacity.

Storage Pool

Using 5.00 GB of 1.58 TB pool capacity

Storage Spaces

- StorageSpace07 (S:) Two-way mirror
  - OK
  - View files
  - Rename
  - Delete

- Physical Drives
  - ST310005 28AS USB Dev...
    - OK
    - Rename
  - Attached via USB
    - 930 GB
    - 0.26 % used
  - Seagate FreeAgent Pro U...
    - OK
    - Rename
  - Attached via USB
    - 698 GB
    - 0.35 % used