# **RAID - CREATING MULTIPLE VOLUMES**

This section will help you delete the Data [D] volume and create multiple volumes that do not surpass 2TB. Please note that all data stored on Data [D] will also be deleted. **You must backup all data stored on Data** [D] before deleting it.

**Note:** The following instructions assume a 5big Office/Office+ with five drives. While your RAID configuration may not exactly match the screenshots below, you may still use the instructions as a guide to delete existing volumes and create new partitions.

**Important info:** Deleting volumes and creating RAID arrays are data destructive operations. Please make certain that all data has been backed up and that all Shared Folders have been moved to other volumes before performing either operation.

## DELETE AN EXISTING RAID VOLUME

Use Disk Management to delete a volume:

- 1. Launch the Dashboard from a Windows workstation on the same network as your LaCie 5big Office/Office+. Start > All Programs > Windows Home Server 2011/Windows Storage Server 2008 R2 > Windows Home Server 2011 Dashboard/Windows Storage Server 2008 R2 Dashboard
- 2. Select the **Home** tab.
- 3. Click once on **COMMON TASKS**.



4. Click once on **Disk Management**.

🐼 Windows Storage Server 2008 R2 Dashboard	
Home Users Computers Add-ins LaCe	Vindows Storage Server 2000 Liseria Constant Sig Office + Sig Office
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5. The screenshot below shows the default RAID configuration for a 5big Office/Office+ with five hard drives. Before creating volumes that do not surpass 2TB, we will delete the largest partition, Data [D].

						1
Dynamic 931.51 GB Online	<b>System</b> 100 MB NTFS Healthy (System)	Windows (C.) 60.00 GB NTFS Healthy (Boot, Page File, Crash Dump)		Data (D-) 871.41 GB NTFS Healthy		
Disk 1						1
Dynamic 931.51 GB Online	System 100 MB NTFS Healthy (System)	Windows (C:) 60.00 GB NTFS Healthy (Boot, Page File, Crash Dump)		Data (D2) 871.41 GB NTFS Healthy		#
Disk 2						1
Dynamic 931.51 GB Online	Data 2 (E:) 60.10 GB NTFS Healthy		Data (D:) 871.41 GB NTFS Healthy			
Disk 3						
Dynamic 931.51 GB Online	Data 2 (E:) 60.10 GB NTFS Healthy		Data (D:) 871.41 GB NTFS Healthy			
Disk 4						
Dynamic 931.51 GB Online	Data 2 (E:) 60.10 GB NTFS Healthy		Data (D:) 871.41 GB NTFS Healthy			
Linglingsted	Mirrored volume RAID-5 vol				_	

6. Right-click on the Data [D] volume. You may right-click on any of its five disks. Select **Delete Volume...** 

Disk 0 Dynamic 931.51 GB Online	System 100 MB NTFS Healthy (System)	Windows (C:) 60.00 GB NTFS Healthy (Boot, Page File, Crash Dump)		Data (D:) 871.41 GB NTFS Healthy		
		· · · · · · · · · · · · · · · · · · ·			Open	
Disk 1					Explore	
Dynamic 931.51 GB Online	System 100 MB NTFS Healthy (System)	Windows (C:) 60.00 GB NTFS Healthy (Boot, Page File, Crash Dump)		Data (D:) 871.41 GB NTFS Healthy	Change Drive Letter and Paths Format Repair Volume	
Disk 2		•		, 	Reactivate Volume	
Dynamic 931.51 GB	Data 2 (E:)		Data (D:)		Delete Volume	
Online	Healthy		Healthy		Properties	
					Help	
Dynamic 931.51 GB Online	Data 2 (E:) 60.10 GB NTFS Healthy		Data (D:) 871.41 GB NTFS Healthy			
Disk 4						
Dynamic 931.51 GB Online	Data 2 (E:) 60.10 GB NTFS Healthy		Data (D:) 871.41 GB NTFS Healthy			
Unallocated	Mirrored volume 🗧 RAID-5 volum	ne				

7. If you have backed up all data and moved all Shared Folders stored on Data [D], click **Yes**.



8. The volume Data [D] has been deleted.

#### **OPTIONAL NAME CHANGE**

Adjusting the size and order of the partitions will add more volumes to Disk Management. Consequently, the disks will no longer appear in the same order as the default RAID configuration. For organizational purposes, it may be easier to change the name and letter of Data 2 [E] so that the Data drives read clearly from left to right in Disk Management. This step is optional and may be skipped.

**Important info:** Editing the name of the volume will have little effect upon the links to Shared Folders on the server. However, changing the drive letter of a volume will require that you revise the location of Shared Folders on the server.

To change the name and volume letter:

1. Right-click on any drive in the Data 2 [E] volume. Select **Properties**.

Dick 0				
Dynamic 931.51 GB Online	System 100 MB NTFS Healthy (System)	Windows (C:) 60.00 GB NTFS Healthy (Boot, Page File, Crash Dump)		871.41 GB Unallocated
Disk 1				
Dynamic 931.51 GB Online	System 100 MB NTFS Healthy (System)	Windows (C:) 60.00 GB NTFS Healthy (Boot, Page File, Crash Dump)		871.41 GB Unallocated
Disk 2				
Dynamic 931.51 GB Online	Data 2 (E:) 60.10 GB NTFS Healthy		Open	
			Explore	
Disk 3			Change Drive Letter and Paths	5
Dynamic 931 51 GR	Data 2 (E:)		Format	
Online	Healthy		Repair Volume	
			Reactivate Volume	
Disk 4			Delete Volume	
Dynamic 931 51 GB	Data 2 (E:)		Descention	
Online	Healthy		Properties	
			Help	
Linella sated	Minned and an DAID Fundament			

2. The name of the volume, **Data 2**, is highlighted in the *General* tab.

🥪 Data 2 (	(E:) Prop	erties			×
Previous	s Versions	Quota	a Cu:	stomize	NFS Sharing
General	Tools	Hardware	Sharing	Security	Shadow Copies
Ŷ		ata 2			
Type:	Lo	ical Disk			
File syste	em: N	TFS			
Use	d space:	ę	98,050,048	bytes	93.5 MB
Free	e space:	128,96	60,679,936	bytes	120 GB
Сар	acity:	129,0	58,729,984	bytes	120 GB
			Drive E:		<u>D</u> isk Cleanup
Comp	oress this	drive to save	e disk spac	e	
Allow file pr	files on t operties	his drive to h	ave conter	nts indexed	l in addition to
	ОК	Cano	el	<u>A</u> pply	Help

3. In this example, we are changing the name from **Data 2** to **Data**. You may use any name that suits your environment. Click **OK**.

Intersection Inter					
Previous Ve	ersions	Quota	a Cu	stomize	NFS Sharing
General To	ols Ha	ardware	Sharing	Security	Shadow Copies
Ŷ	Data				
Type:	Local	Disk			
File system:	NTFS	5			
Used s	pace:	9	98,050,048	bytes	93.5 MB
Free sp	ace:	128,96	60,679,936	bytes	120 GB
Capacit	y:	129,0	58,729,984	bytes	120 GB
	(				
			Drive E:		Disk Cleanup
<ul> <li><u>C</u>ompress this drive to save disk space</li> <li>Allow files on this drive to have contents indexed in addition to file properties</li> </ul>					
0	K	Cano	el	<u>A</u> pply	Help

4. Right-click on any drive in the new Data [E] volume. Select **Change Drive Letter and Paths...** 

Dynamic 931.51 GB Online	System 100 MB NTFS Healthy (System)	Windows (C:) 60.00 GB NTFS Healthy (Boot, Page File, Cra	ssh Dump)	871.41 GB Unallocated
Disk 1 Dynamic 931.51 GB Online	System 100 MB NTFS Healthy (System)	Windows (C:) 60.00 GB NTFS Healthy (Boot, Page File, Cra	ash Dump)	871.41 GB Unallocated
Disk 2 Dynamic 931.51 GB Online	Data (E) 60.10 GB NTFS Healthy		Open d Explore	
Disk 3 Dynamic 931.51 GB Online	Data (E:) 60.10 GB NTFS Healthy		Change Drive Letter and Paths Format Repair Volume d Reactivate Volume	
Dynamic 931.51 GB Online	Data (E:) 60.10 GB NTFS Healthy		Delete Volume Properties Help	
Unallocated	Mirrored volume 🗧 RAID-5 volur	me		

5. In the pop-up window, click on **Change...** 

Change Drive Letter and Paths for E: (Data)	×
Allow access to this volume by using the following drive letter and path	IS:
Add Change Remove	
OK Cancel	

6. Click on the pulldown menu to choose the next letter in alphabetical order. In this case, **D**. Click **OK**.



7. Click **Yes** at the prompt.



8. If the change in letter assignment does not take effect immediately, go to the the pulldown menu at the top of Disk Management to select **Action > Refresh**.

File Ad	tion View Help		
<hr/>	Refresh		
Volur	Rescan Disks	Туре	File System
🗇 Da	Create VHD	Dynamic	NTFS
📾 Sy:	Attach VHD	Dynamic	NTFS
📾 Wi		Dynamic	NTFS
	All Tasks 🕨		
	Help		

9. The volume should now be listed as *Data* [*D*].

Dynamic 931.51 GB Online	System 100 MB NTFS Healthy (System)	Windows (C:) 60.00 GB NTFS Healthy (Boot, Page File, Crash Dump)		871.41 GB Unallocated	-
Dynamic 931.51 GB Online	System 100 MB NTFS Healthy (System)	Windows (C-) 60.00 GB NTFS Healthy (Boot, Page File, Crash Dump)		871.41 GB Unallocated	
Dynamic 931.51 GB Online	Data (D-) 60.10 GB NTFS Healthy		871.41 GB Unallocated		E
Dynamic 931.51 GB Online	Data (D-) 60.10 GB NTFS Healthy		871.41 GB Unallocated		
Dynamic 931.51 GB Online	Data (D:) 60.10 GB NTFS Healthy		871.41 GB Unallocated		
Unallocated	Mirrored volume RAID-5 volum	ne			

### **CREATING MULTIPLE RAID 5 VOLUMES**

In this example, there are five disks and we do not want any of the volumes to exceed 2TB (2TB = 2000000MB). RAID 5 remains an optimal solution to protect data while maintaining a high percentage of the available storage. Before configuring the RAID 5 volumes, we must know the amount of storage to assign each disk in the array. To determine the capacity in MB, use the following formula:

2000000MB/N-1 (N equals the number of disks.)

**Technical note:** We have used a denominator of *N-1* since RAID 5 will offer 80% capacity in a five disk array.

Follow the directions below to create the volumes.

1. Right-click on the **Unallocated** partition for Disk 2, Disk 3, or Disk 4. Select **New RAID-5 Volume...** Please note that right-clicking on Disk 0 and Disk 1 will not offer the option to create a RAID 5 volume.

Disk 0 Dynamic 931.51 GB Online	System 100 MB NTFS Healthy (System)	Windows (C-) 60.00 GB NTFS Healthy (Boot, Page File, Crash Dump)		871.41 GB Unallocated		Î
Dynamic 931.51 GB Online	System 100 MB NTFS Healthy (System)	Windows (C-) 60.00 GB NTFS Healthy (Boot, Page File, Crash Dump)		871.41 GB Unallocated		
Disk 2 Dynamic 931.51 GB Online	Data (D:) 60.10 GB NTFS Healthy		871.41 GB Unallocated		New Simple Volume New Spanned Volume New Strice Volume	H
Disk 3 Dynamic 931.51 GB Online	Data (D:) 60.10 GB NTFS Healthy		871.41 GB Unallocated	[	New Mirrored Volume New RAID-5 Volume Properties	
Disk 4 Dynamic 931.51 GB Online	Data (D:) 60.10 GB NTFS Healthy		871.41 GB Unallocated		нер	
Unallocated	Mirrored volume 📒 RAID-5 volum	ne				

2. The New RAID-5 Volume Wizard will appear. Click Next.



3. Select all the disks listed under Available.

New RAID-5 Volume			×			
Select Disks You can select the disks and set the disk size for this volume.						
Select the disks you want to us	se, and then click Add.					
Available:		Selected:				
Disk 0 892326 MB Disk 1 892326 MB Disk 3 892326 MB Disk 4 892326 MB	Add >  < Remove < Remove All	Disk 2 892326 MB				
Total volume size in megabytes	(MB):	0				
Maximum available space in Mi	B:	892326				
Select the amount of space in I	MB:	892326				
	< Back	Next > Can	cel			

4. Click **Add**. All the disks will be moved to the column *Selected*.

New RAID-5 Volume	<b>—</b>
Select Disks You can select the disks and set the disk size for this vo	olume.
Select the disks you want to use, and then click Add.	
Available: Add > <remove <remove all<br="">Total volume size in megabytes (MB): Maximum available space in MB: Select the amount of space in MB:</remove></remove 	Selected: Disk 0 892326 MB Disk 1 892326 MB Disk 2 892326 MB Disk 3 892326 MB Disk 4 892326 MB 3569304 892326 892326
< Back	Next > Cancel

5. In the field for **Select the amount of space in MB**, type **500000**.

New RAID-5 Volume	×
Select Disks You can select the disks and set the disk size for this vo	olume.
Select the disks you want to use, and then click Add.	
Available:	Selected:
Add > <remove <remove="" all<="" th=""><th>Disk 0 500000 MB Disk 1 500000 MB Disk 2 500000 MB Disk 3 500000 MB Disk 4 500000 MB</th></remove>	Disk 0 500000 MB Disk 1 500000 MB Disk 2 500000 MB Disk 3 500000 MB Disk 4 500000 MB
Total volume size in megabytes (MB):	2000000
Maximum available space in MB:	892326
Select the amount of space in MB:	500000
< Back	Next > Cancel

New RAID-5 Volume	×
Select Disks You can select the disks and set the disk size for this v	rolume.
Select the disks you want to use, and then click Add.	
Available:	Selected:
Add >    < Remove   < Remove All	Disk 0 500000 MB Disk 1 500000 MB Disk 2 500000 MB Disk 3 500000 MB Disk 4 500000 MB
Total volume size in megabytes (MB):	2000000
Maximum available space in MB:	892326
Select the amount of space in MB:	500000
< Back	k Next > Cancel

#### 6. Click Next.

7. Assign a drive letter. In this example, we have selected the next letter in alphabetical order, "E".

New RAID-5 Volume	<b>—</b>
Assign Drive Letter or Path For easier access, you can assign a drive letter or	drive path to your volume.
Assign the following drive letter:     Mount in the following empty NTFS folder:     Do not assign a drive letter or drive path	E Browse
<	Back Next > Cancel

8. You may name the volume. In this example, we have named the volume *Data 2*. LaCie recommends keeping the defaults *NTFS* (file system) and *Perform a quick format*. Click **Next**.

New RAID-5 Volume	<b>×</b>
Format Volume To store data on this volume, you m	iust format it first.
Choose whether you want to format	this volume, and if so, what settings you want to use.
Do not format this volume	
Format this volume with the format the second se	ollowing settings:
File system:	NTFS -
Allocation unit size:	Default 👻
Volume label:	Data 2
📝 Perform a quick format	
Enable file and folder of	compression
	< Back Next > Cancel

9. Review your choices then click **Finish**.

New RAID-5 Volume	<b>X</b>
	Completing the New RAID-5 Volume Wizard
	You have successfully completed the Wizard.
	You selected the following settings: Volume type: RAID-5 Disks selected: Disk 0, Disk 1, Disk 2, Disk 3, Disk 4 Volume size: 2000000 MB Drive letter or path: E: File system: NTFS Allocation unit size: Default Volume label: Data 2 To close this wizard, click Finish.
	< Back Finish Cancel

You may create the next RAID 5 volume while *Data 2* is resynching:

1. Right-click on the **Unallocated** partition for Disk 2, Disk 3, or Disk 4. Select **New RAID-5 Volume...** Please note that right-clicking on Disk 0 and Disk 1 will not offer the option to create a RAID 5 volume.

Dynamic 931.51 GB Online	System 100 MB NTFS Healthy (System)	Windows (C:) 60.00 G8 NTFS m) Healthy (Boot, Page File, Crash Dump)		Data 2 (E:) 488.28 GB NTFS Resynching		383.13 GB Unallocated		
Call Disk 1 Dynamic 931.51 GB Online	System 100 MB NTFS Healthy (System)	Windows (C:) 60.00 GB NTFS Healthy (Boot, Page File, Crash Dump)		Data 2 (E:) 488.28 GB NTFS Resynching		383.13 GB Unallocated		
Dynamic 931.51 GB Online	Data (D:) 60.10 GB NTFS Healthy		Data 2 (E) 488.28 GB NTFS Resynching         383.13 Unallo           Data 2 (E) 488.28 GB NTFS Resynching         383.13 Unallo		383.13 Unallo	GB ated	New Simple Volume New Spanned Volume	
Disk 3 Dynamic 931.51 GB Online	isk 3 mic Data (D:) 1 GB 0.10 GB NTFS Healthy				383.13 Unallo	GB cated	New Striped Volume New Mirrored Volume New RAID-5 Volume Properties	
Disk 4 Dynamic 931.51 GB Online	Data (D:) 60.10 GB NTFS Healthy		Data 2 (E:) 488.28 GB NTFS Resynching	3	383.13 Unallo	GB cated	Help	
Unallocated 📕 Mirrored volume 📕 RAID-5 volume								

2. The New RAID-5 Volume Wizard will appear. Click Next.



3. Select all the disks listed under Available and click **Add**. All the disks will be moved to the Selected column.

New RAID-5 Volume	<b>X</b>				
Select Disks You can select the disks and set the disk size for this v	Select Disks You can select the disks and set the disk size for this volume.				
Select the disks you want to use, and then click Add.					
Available: Add > < Remove < Remove All Total volume size in megabytes (MB): Maximum available space in MB: Select the amount of space in MB:	Selected: Disk 0 392326 MB Disk 1 392326 MB Disk 2 392326 MB Disk 3 392326 MB Disk 4 392326 MB 1569304 392326 392326				
< Bac	k Next > Cancel				

4. Since the amount of space assigned to each disk does not exceed 500000, we can click **Next** to move to the next step.

New RAID-5 Volume	×			
Select Disks You can select the disks and set the disk size for this volume.				
Select the disks you want to use, and then click Add.				
Available: Add > <remove <remove all<br="">Total volume size in megabytes (MB): Maximum available space in MB: Select the amount of space in MB:</remove></remove 	Selected: Disk 0 392326 MB Disk 1 392326 MB Disk 2 392326 MB Disk 3 392326 MB Disk 4 392326 MB 1569304 392326 392326			
< Back Next > Cancel				

5. Assign a drive letter. In this example, we have selected the next letter in alphabetical order, "F".

New RAID-5 Volume	×
Assign Drive Letter or Path For easier access, you can assign a drive letter or drive path to your volume.	
<ul> <li>Assign the following drive letter:</li> <li>Mount in the following empty NTFS folder:</li> <li>Browse</li> <li>Do not assign a drive letter or drive path</li> </ul>	
< Back Next >	Cancel

6. You may name the volume. In this example, we have named the volume *Data 3*. LaCie recommends keeping the defaults *NTFS* (file system) and *Perform a quick format*. Click **Next**.

New RAID-5 Volume	<b>—</b>			
Format Volume To store data on this volume, you mu	ust format it first.			
Choose whether you want to format this volume, and if so, what settings you want to use.				
O not format this volume				
Format this volume with the format	llowing settings:			
File system:	NTFS •			
Allocation unit size:	Default			
Volume label:	Data 3			
Perform a quick format				
Enable file and folder co	ompression			
	< Back Next > Cancel			

7. Review your choices then click **Finish**.

New RAID-5 Volume		<b>—</b>
	Completing the New RAID-5 Volume Wizard	
	You have successfully completed the Wizard.	
	You selected the following settings: Volume type: RAID-5 Disks selected: Disk 0, Disk 1, Disk 2, Disk 3, Disk 4 Volume size: 1569304 MB Drive letter or path: F: File system: NTFS Allocation unit size: Default Volume label: Data 3 To close this wizard, click Finish.	
	< Back Finish Cano	el

**Note on Shared Folders:** Data 2 [E] and Data 3 [F] offer more capacity than the Windows Mirror and Data [D] volumes. LaCie recommends using Data 2 and Data 3 for your Shared Folders.

Note: Please keep the following in mind as Mirrored and/or RAID 5 volumes resync:

- Rebooting the 5big Office/Office+ while Disk Management is Resynching a Mirrored or RAID 5 volume will
  not harm the configuration or its data. However, since the process was interrupted, Disk Management will
  restart the resync at 0% once the 5big Office/Office+ has rebooted.
- Due to the capacity of the RAID 5 volume, rebooting while a resync is in progress could extend the

operation for many hours.

A volume that is in the midst of a resync may be accessed by workstations on the network. Users can
perform common actions with the volume(s), such as reading files, writing files, or moving Shared Folders.
However, performance will be degraded while Windows is resynching Mirrored and/or RAID 5 volumes.