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Expanding a PERC6/i RAID 10 array

by Dan355E
on Jul 5, 2012 at 10:03 PM
Dell Hardware

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> Trying to expand an array without taking the server offline, using OMSA (DELL R710) PERC 6/i
> The machine has 2 virtual disks, OS: RAID 1, and Data: RAID10
> I install the physical drive. The array currently have 3 146GB drives, trying to add a 4th, and it turns green and blinks. However in the OM interface under tasks for that array i dont see "reconfigure".... what do i do?
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11 Replies

Habanero
keith22 Jul 5, 2012 at 10:15 PM
Do you mean RAID 5? RAID 10 requires a minimum of 4 disks and requires an even number of disks.
Edit: You cannot reconfigure a RAID 10 on the PERC6/i controllers
http://support.dell.com/support/edocs/software/svradmin/6.0.3/omss/vdmgmt.htm#1233768

Serrano

Dan355E Jul 5, 2012 at 10:44 PM

Sorry it does have 4 146GB, it is configured as RAID10, is there any option to reconfigure it through the BIOS? Or do i have to do a backup of the data, new virtual disk, and restore?

Habanero

keith22 Jul 5, 2012 at 10:50 PM

Looks like a backup and restore

Mace

John White ✅

This person is a verified professional.

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Jul 6, 2012 at 12:41 AM

Which array had three drives, the RAID 1 or 10?

Thai Pepper

Luc23 ✅

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Jul 6, 2012 at 1:11 AM

I am reading a bit into this, but I am assuming you have the R710 setup with 2.5" drives. This would allow you a total of 8 drives according to the documentation.

So if you are using a Perc6/i and you have Raid1/10 then you currently must have 6 disks in use (unless you have a hot spare). But assuming you don't have a hot spare, you should have two open slots.

You will need both of those slots if you want to expand your Raid10. But as MHCKieth pointed out, it doesn't appear to be a feature to expand a Raid10 on a Perc6/i. Of course it doesn't even mention that the Perc6/i can come configured with Raid10 to begin with, but you can certainly build it that way from Dell.

So the net/net is that you definitely need two drives to even attempt expanding your Raid10. Whether it would actually work or not is unknown.

Jalapeno

Willy @ Dell Jul 9, 2012 at 8:39 PM

Page 35 of the User Guide for the PERC 6 states:

NOTE: You cannot perform RAID level migration and expansion on RAID levels 10, 50, and 60.

User Guide link:

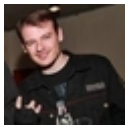http://support.dell.com/support/edocs/storage/RAID/PERC6/en/PDF/en_ug.pdf

Reconfiguring Virtual Disks

There are two different methods to reconfigure RAID virtual disks — RAID Level Migration and Online Capacity Expansion. RAID Level Migrations (RLM) involve the conversion of a virtual disk to a different RAID level and Online Capacity Expansions (OCE) refer to increasing the capacity of a virtual disk by adding drives and/or migrating to a different RAID level. When a RLM/OCE operation is complete and reboot is not necessary. For a list of possible RAID level migrations and whether or not a capacity expansion is possible in that scenario, see Table 3-2. The source RAID level column indicates the virtual disk level before the RAID level migration and the target RAID level column indicates the RAID level after the operation is complete.

MHCKeith is correct you would need to backup delete the existing RAID 10. It is recommended at this time to create an unlike RAID on the drives and then delete again. This is a precautionary step that helps clear out any RAID header information on the drives. Then create the new RAID 10 with the 6 drives. To expand a RAID 10 you would need to add a pair of drives (2). Essentially you are adding another mirror set to the RAID.

Pimiento

ivan.bauer.92 May 8, 2013 at 7:50 AM

1st Post

Oh crap!

Sorry to resurrect this post but i'm facing this problem with a Dell T610 Perc 6/i and i'm curious if there is another raid controller capable of expand RAID 10? Or this is a technical limitation and feature of the array itself?

Thanks in advance.

Sonora

nidelius Mar 28, 2014 at 10:29 PM

:(

I have 4 x 136.12GB in a 272.25GB RAID 10. http://i.imgur.com/5ALzmqQ.png

So now I'm stuck with a 272.25GB RAID 10 on a Dell Poweredge 2950 even though I have new 4 x 600GB disks in the server. Anyone have a good tip on how to backup and restore the quickest. Backup to NAS or somehow add e-sata or external harddrive. I guess it'll take some time to do it through USB, interface.

Sonora

nidelius May 5, 2014 at 11:53 PM

I guess the only option is:
http://www.unixwiz.net/techtips/dell-perc6-extend.html

Serrano

JRBlood ✅
This person is a verified professional.
Verify your account to enable IT peers to see that you are a professional.
Dec 9, 2016 at 11:13 PM
ICS in Syracuse (Formerly MicroTECH) is an IT service provider.

> nidelius wrote:
> I guess the only option is:
> http://www.unixwiz.net/techtips/dell-perc6-extend.html

That only applies to RAID1. Stephen even says in the article:
"This ONLY works with RAID1 arrays, which is two-drive mirroring. Trying this with any other RAID geometry is guaranteed not to work."

Thai Pepper

Luc23 ✅
This person is a verified professional.
Verify your account to enable IT peers to see that you are a professional.
Dec 9, 2016 at 11:45 PM
Way to resurrect the dead!
But how embarrassing. I think this was the last time I ever used net/net in a post or in daily language (at least I hope so).

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Difference between Logging out and Rebooting
Windows
I have an Level 1 technician who is convinced that logging out and logging back in does something that a full reboot and then log in does not do. Scenario example: a mapped drive pushed out through Group Policy isn't showing up. The user says "I already r...
Can you suggest a better Remote access tool?
Networking
I work for a OEM that provides Windows 10 Pro based industrial computers to operate our product, as part of our customer support we install TightVNC on the computers and use a VPN access device to access the systems in the field. We also use this in-house...
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A big thanks to all the Vendors and the SpiceHeads that joined the Brackets this year. It was a lot of Fun again, can hardly wait until next year. So without further ado here are your winners.
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Over the past couple of years when researching multiple offices, I've pretty much been told that most places have the employees in a certain office only work on the projects for that office. This was before BIM 36...

Wireless link between buildings (update)

Networking

I saw this post and I believe the Ubiquiti NBE-xxx will be the solution I need to build a bridge. However, I cannot place anything outside the building, so the wireless device it's inside and needs the signal to pass through the glass on both sides. ...

Snap! IT Spending, Pwn2Own, Data Center Fire, Veil Nebula, Pac-Man 99

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The SOC Briefing for Apr 7th - April Fools

Security

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