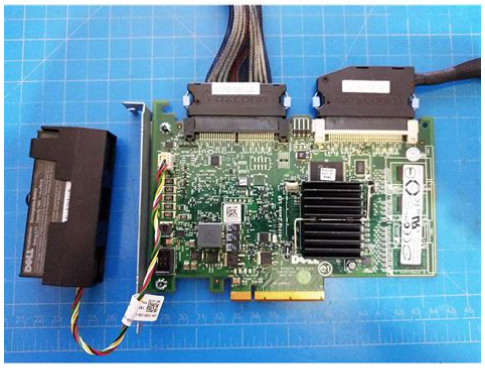
Dell Perc 6 Ir Manual



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Book Descriptions:

Dell Perc 6 Ir Manual

Its no surprise that if youve ever seen a rack server with its service. In most cases there will only be one option here. If you have more than one PERC 6iR RAID controller installed they will be listed here. The Dell PERC 6iR supports RAID0 and RAID1. We recommmend RAID1 for redundant configurations with two disks. If you are only attaching one disk select RAID0. You may create more if you have remaining unused physical disks. Otherwise press escape until you reach the exit menu for the RAID configuration utility.Our standard 90day warranty includes hasslefree returns. Can’t seem to get your RAID array set up.TechMikeNY boasts ISO 140001, ISO 9001, and OHSAS 18001 certifications, as well as being an official Microsoft Registered refurbisher. I just took another look at the manual and came across the. Show My Main. PowerEdge Expandable RAID Controller. 6 series Computer Hardware pdf manual download.Battery Warranty Information 30. Related Manuals for Dell Sas 6ir Manual Dell Perc 5i. Dell PowerEdge RAID Controller H330 Dell 6 Series Manual Online. It has a single hard drive. Windows Server 2012. I have installed a 2nd hard drive into the server with the goal of creating a Raid 1 virtual disk. Id like to avoid setting up the raid and then restoring the data from backup. If I use the Perc CtrlC setup, I know this will wipe out the data, so that is not an option. I assumed this just meant the new drive I was adding, but I called Dell to confirm. The technician said that it would wipe out the data on both disks. Im amazed that this is the case. If I use OpenManage Virtual Disk Wizard, it would wipe out the data on both disks. The technician wasnt super confident in his answer, and kept putting me on hold to confirm information he was giving me.http://vendax.ro/files/innova-canobd2-3030-manual.xml

- **1.0.**

Can anyone confirm that this is true Openmanage is just a GUI extension of of the BIOS setup utility on the controller card that runs in Windows and does not really add any additional functionality above that in the BIOS setup utility. Management enables you to perform storage tasks that are datadestructive. Storage Management should be used by experienced storage administrators who are For the sake of argument lets assume that it behaves as a hardware RAID controller. In general, hardware RAID controllers tend to behave like a God and simply present the virtual disk to the OS as if it was a single drive, and as far as the actual managment of the physical disks, it does not care what the OS thinks or wants to do. It calls all the shots. This is why defragmenting hardware RAID virtual drives is pretty much a useless endeavor, the controller will put the data pretty much wherever it wants. No regrets later. Anyway, Id image that puppy just in case something weird happens when you build your array. Anyway, Id image that puppy just in case something weird happens when you build your array. No regrets later. Never had a raid setup. But it sounds like you agree with me that I should be able to use Openmanage to create a Raid 1 virtual disk without destroying the data. When I called Dell I was 99% sure that the warning I was getting just applied to the new disk I was adding, but I wanted to be 100% certain. I was very surprised when he said I couldnt do it without destroying the data. I have good bare metal backups but Id just prefer not to have to use it. Never had a raid setup. I have good bare metal backups but Id just prefer not to have to use it. This type of array should never be used unless under very specific circumstances which do not appear to apply to you. Im sure Dell has a huge PDF about it on their site somewhere. Amazed at how quick they came in. My brother recommended that I join Spiceworks and glad I did! Amazed at how quick they came in.http://janaturismointegrato.com/uploads/innova-90-manual.xml

My brother recommended that I join Spiceworks and glad I did! Id get a good image of that drive just in case. Ive done reconfigs on different arrays, but done so by imaging existing system, breaking

array, rebuilding it, then reimaging back. The controller needs to configure the drives to its liking which also usually involves writing zeros over the entire array, less the space it has written its configuration data to. Openmanage is just a GUI extension of of the BIOS setup utility on the controller card that runs in Windows and does not really add any additional functionality above that in the BIOS setup utility. This is why defragmenting hardware RAID virtual drives is pretty much a useless endeavor, the controller will put the data pretty much wherever it wants. If I were in your position; I would pick up a third hard drive, put the two new ones in the server, create the new RAID 1 and restore to it from your backup. This would have two upsides. First it provides a good opportunity to test your backup, and second you still have all of your data intact on the original drive. If something goes wrong, you just pop the old drive back in and you are back up and running. At the very very least three drives in a Raid 5. On a server never ever use a software raid to many things can go wrong that cannot be fixed, as many techs have stated backup all your files and folders shared across your network, install your hard drive if you have not done so already go into the raid config utility and setup your raid array, reinstall a clean Server OS, do your drivers updates, server updates then migrate your backed up files and folders. One thing I strongly suggest is to add at least three hard drives of equal size and at best same manufacturers set up a raid 5 then if something happens to A Drive your servers is still operational until your replace the drive. Once replaced the raid config utility in Windows will rebuild the Raid array.

I plan on making several backups using Microsoft Server Backup, a copy of just the data, and doing it the right way.firing up the Dell Raid configurator from the Bios.thanks for ALL the replies.appreciate it. I inherited this setup. Thanks for the best answer, glad I could help. Adding a 2nd drive was an easy sell.a third not so much. Page Count 86 NOTICE A NOTICE indicates either potential damage to ha rdware or loss of data and tells you how to avoid the problem. All rights reserved. Reproduction of these materials in any manner whatso ever without the written permission of Dell Inc.Other trademarks and trade names may be used in this document to refer to either the entities claiming the marks and names or their products. Dell Inc. disc laims any proprietary inte rest in trademarks and trade names other than its own.Do not service any product exce pt as e xplained in your user documentation. Opening or removing covers that ar e marked with the triangular symbol with a lightning bolt may expose you to electrical shock. Do not disassemble, crush, puncture, short e xternal contacts, dispose of in fire or water, or expose batteries to temperatures higher than 60 degrees Celsius 140 degr ees Fahr enheit. Do not attempt to open or service batteries; replace batteries only with batte ries designated for the product. SAFETY When W orking Inside Y our Sy stem Before you remove the system covers, perform the following steps in the sequence indicated. CAUTION Except if expressly otherwise instruct ed in Dell documentation, only trained service technicians are authorized to remove the sy stem cover and access any of the components inside the sy stem. NOTICE T o help avoid possible damage to the sy stem board, wait for 5 seconds after turning off the sy stem before removing a com ponent from the sy stem board or disconnecting a peripheral device. book.

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book Page 9 Monday, September 15, 2008 247 PM T o reduce the potential of personal injury or shock, disconnect any telecommunicati on lines from the system. Some cables have a connector with locking tabs; if you ar e disconnecting this type of cable, press in on the locking tabs before disconnecting the cable. As you pull the connectors apart, keep them even ly aligned to avoid bending any connector pins. Do not touch the components or contacts on a card. Hold a car d by its edges or by its metal mounting bracket. Hold a component such as a microprocessor chip by its edges, not by its pins. SAFETY Protecting Against Electrostatic Discharge Electrostatic discharge ESD ev ents can harm electronic compo nents inside your computer. Under certain conditions, ESD may build up on your body or an object, such as a peripheral, and then discharge into another

object, such as your computer. T o prevent ESD damage, you should discharge static electricity from your body befor e you interact with any of your computer ’s internal electronic components, such as a memory module. When con necting a peripheral inc luding handheld digital assistants to your computer, you should always ground both yourself and the per ipheral before connecting it to the computer. If possible, use antistatic floor pads and work bench pads. book.book Page 10 Monday, September 15, 2008 247 PM The physical disk group appears to the host system as a single storage unit. Data throughput improves because multiple disks can be accessed simultaneously. RAID systems also improve data storage availab ility and fault tolerance. RAID Levels R AID 0 uses disk striping to provide hig h data throughput, especially for large files in an environment that requir es no data redundancy. Integrated Mirroring or R AID 1 uses di sk mirroring so that data written to one physical disk is simultaneously w ritten to another physical disk.

This is good for small databases or other applicat ions that requir e small capacity, but complete data redundancy. NOTICE Lost data on an Integrated Striping vir tual disk cannot be recovered in the event of a phy sical disk failure. RAID T erminology Integrated Striping Integrated Striping R AID 0 allows you to write data across multiple physical disks instead of just one phy sical disk. In tegrated Striping involves partitioning each physical disk storage space in to 64 KB stri pes. These stripes are interleaved in a repeated sequential ma nner. The part of the stripe on a single physical disk is called a stripe element. F or example, in a four disk system using only Integrated Striping, segment 1 is written to disk 1, segment 2 is wr itt en to disk 2, and so on. Integrated Striping enhances performance because multip le physical disks are accessed simultaneously, but Integrated Striping does not provide data redundancy. F igure 22 shows an e xample of Integrated Striping. book.book Page 12 Monday, September 15, 2008 247 PM If one disk fails, the contents of the other disk can be used to run the system and rebuild the failed physical disk. The primary advantage of Integrated Mirro ring is that it provides 100 percent data redundancy. Because the contents of the disk are completely written to a second disk, the system can sustain the fail ure of one disk. Both disks contain the same data at all times. Either physical disk can act as the operational physical disk. NOTE Mirrored phy sical disks improve read performance by read load balance. Figure 23.

Example of Inte grated Mirroring RAID 1 stripe element 1 stripe element 5 stripe element 9 stripe element 2 stripe element 6 stripe element 10 stripe element 3 stripe element 7 stripe element 11 stripe element 4 stripe element 8 stripe element 12 stripe element 1 stripe element 2 stripe element 3 stripe element 1 duplicated stripe element 2 duplicated stripe element 3 duplicated stripe element 4 stripe element 4 duplicated book.book Page 13 Monday, September 15, 2008 247 PM NOTE Contact Dell if the controller is damaged. 2 T urn off the system and attached peri pherals, and disconnect the system from the electrical outlet. See your system’s Hardware Owner’s Manual or the User ’s Guide for more information on power supplies. 3 Disconnect the system from the ne twork and remove the cover of the system. See your system’s Hardware Owner’s Manual or the User ’s Guide for more information on opening the system. 4 Select an appropriate PCIE slot. Remove the blank filler bracket on the back of the system aligned with t he PCIE slot you have selected. See F igure 41. book.book Page 19 Monday, September 15, 2008 247 PM NOTE Operating sy stem installation on a RA ID 1 or a RAID 0 virtual disk is supported only when the virtual disk is in an optimal state. NOTE T o ensure you have the latest versio n of any driver mentioned in this section, check the Dell Support website at support.dell.com. If a newer version exists, you can download the driver to your sy stem. book.book Page 23 Monday, September 15, 2008 247 PM Creating the Device Driver Media Use one of the methods described in th e following sections to create the device driver media. Downloading Drivers From the Dell Sy stem s Service and Diagnostic T ools Medi a 1 Insert the Dell Systems Service and Diagnostics T ools media into a system. The W elcome to Dell Service

and Diagnostic Utilities screen is displayed. 2 Select your server model and operating system Microsoft W indows Server 2003. 3 Click Continue. book.

book Page 24 Monday, September 15, 2008 247 PM Copy the driver to a diskette drive, CD, D VD, or USB drive. Downloading Drivers From the Dell Support Site 1 Go to support.dell.com. 2 Click Drivers and Downloads. 3 Enter the service tag of your system in the Choose by Service T ag field or select your system's model. 4 Select the System T ype, Operating System, Driver Language, and Category from the dropdown list. 5 The drivers that are applicable to your selection ar e displayed. W ithin a few minutes, a screen appears that asks for additional controllers in the system. book.book Page 25 Monday, September 15, 2008 247 PM The system prompts for the driver media to be inserted. NOTE The driver can be provided usin g a properly formatted USB key. Check support.dell.com for additional details. 4 Insert the driver media in the media drive and press. A list of SAS controllers appears. 5 Select the right driver for the insta lled controller and press to load the driver. NOTE For Windows Server 2003, a message can appear that states that the driver that you provided is older or ne wer than the existing Windows driver. Press to use the driv er that is on the media. 6 P ress again to continue th e installation process as usual. Check support.dell.com for driver updates. book.book Page 26 Monday, September 15, 2008 247 PM The W indows operating system detec ts the new controller and displays a message to inform the user. 4 The F ound New Hardware Wizard screen pops up and displays the detected hardwar e device. NOTE Windows 2008 and Vista include a de vice driver to support the SAS controllers. The sy stem automatically d etects the new controller and installs the driver. Check the version of the driver installed by Windows and update if necessary. 5 Click Next. 6 On the Locate device driver screen, select Search for a suitable driver for my device and click Next. 7 Make the Driver F iles available and br owse to the proper location from the Locate Driver F iles screen.

8 Click Next. 9 The wizard detects and installs the appropriate device drivers for the new R AID controller. 10 Click Fi n i s h to complete the installation. 11 Reboot the server if W indows request to do so. book.book Page 27 Monday, September 15, 2008 247 PM The Device Manager screen appears. NOTE An alternative method is to open Device Manager. In Windows Explorer, right click on "My Computer" and select "Manage". NOTE In Windows 2008 and Windows Vista, SAS is listed under Storage Controllers. 5 Doubleclick the R AID controller for whic h you want to update the driver. 6 Click the Driver tab and click Update Driver. The Upgrade Device Driver Wizard screen appears. 7 Make the driver files available wi th the USB k ey, or other media. 8 Select Install from a list or specific location. 9 Click Next. 10 F ollow the steps in the wizard and brow se to the location of the driver files. 11 Select the INF file from the USB key or other media. 12 Click Next and continue the installation steps in the W izard. 13 Click F inish to exit the wizar d and reboot the system for the changes to take place. book.book Page 28 Monday, September 15, 2008 247 PM The driver is updated frequently. T o ensure that you h ave the curr ent version of the driver, download the updated Linux driver from the Dell Support website at support.dell.com. Creating a Driver Diskette Before beginning the installation, copy the drivers from the Service and Diagnostic Utilities media or download the driver appropriate for Linux from the Dell Support website at support.dell.com. This file includes two Red Hat P ackage Managers RPMs and driver update disk files. The package also contains the Dynamic Kernel Module Support DKMS Red Hat P ackage Manager RPM file, source code, and release notes. Refer to the documentation website at support.dell.com for more information on DKMS. The package is a zipped tar file. Afte r downloading the package to a Linux system, perform the following steps.

1 Unzip the package using gunzip. 2 Untar the file using tar xvf. 3 Use the dd command to create a driver up date disk. Use the appropriate image for the purpose. NOTE The output file "of" might be different, de pending on how your operating sy stem maps the floppy driv er. The floppy drive does not need to be mounted in order to exe cute the "dd" command. 4 Use the diskette for operating

system installation as described later in this section. book.book Page 29 Monday, September 15, 2008 247 PM See the output of the dkms mkdriverdisk command for the exact path. Installing Red Hat Enterprise Linux Operating Sy stems using the Driver Update Diskette P erform the following steps to install Red Hat Enterprise Linux versions 4 and 5 and the appropriate driver. 1 Boot normally from the Red Hat En terprise Linux installation media. 2 At the command prompt, type linux expert dd 3 When the install prompts for a driver diskette, insert the disk ette and press. The driver will be installed. book.book Page 30 Monday, September 15, 2008 247 PM In this scenario, the Red Hat Enterpri se Linux 5 installer installs the Grand Unified Bootloader GRUB to the incorrec t har d drive. NOTE Press for SLES 10 installation an d for SLES 9 installation as shown on screen. 3 Select Installation from the menu. book.book Page 31 Monday, September 15, 2008 247 PM The system selects the driver from the diskette and installs it. The system then displays the message DRIVER UPDATE ADDED with the description of the driver module. 6 Click OK. If you want to install from anothe r driver update medium, continue with the following steps. 7 The system displays the message PLEASE CHOOSE DRIVER UPDATE MEDIUM. 8 Select the appropriate driver update medium. The system selects the driver from the disk and installs it. NOTE SLES 9 Gold media is required when you install any SLES 9 service pack.

The issue occurs when the har d drives are configured with more than one R AID configurat ion, or when one RAID volume along with one or two individual disks are connected to the controller. In these scenarios, the SUSE Linux Enterprise Serv er 10 installer will install the grand unified bootloader GRUB to the incorre ct har d drive. T o avoid this issue, complete the following st eps during the operating system installation 1 Insert the SUSE Linux installation media and proceed with the installation screens to the Installation Settings window. Select the Expert tab, and then select Booting. 2 The Boot Loader Settings window appears. 3 Select the Boot Loader Installation tab and then select Boot Loader Installation Details. book.book Page 32 Monday, September 15, 2008 247 PM It displays the list of controllers and devices detected at init ialization in a hierarchical order. The BIOS also prompts you to start t he Configuration Utility during the POST process. BIOS Fault Code Messages If an error is encountered in the BIOS during POST, the BIOS Configuration Utility forces you to acknowledge BIOS errors by halting the POST process after the error display. Y ou must pr ess any key to continue. The BIOS Configuration Utility allows you to choose to continue booting or stop booting if errors are encounter ed. book.book Page 35 Monday, September 15, 2008 247 PM Then restart your system and try again. The Configuration Utility menu screen displays. Functions Performed NOTE The screens are organized in a hierarch ical fashion and navigation hints are displayed at the bottom of each screen. Adapter P roperties Main screen for the selected co ntroller. P r ovides a menu for additional screens. Select New Array T ype P rovides the option to view existing arrays or create new arrays. Create New Array P rovides the ability to add dev ices to the specified new array. View Array Displays the properties for th e existing array and the option to enter the Mange Array screen.

Manage Array P rovides options for managing the current array. Manage Hot Spares P rovides the ability to add or remove global hot spares. SAS T opology Lists the physical top ology for the selected controller. book.book Page 36 Monday, September 15, 2008 247 PM Advanced Adapter P roperties Lists the advanced properties for the selected controller. Advanced Device P roperties Lists static and modifiable advanc ed properties for all devices attached to the selected controller. PHY P r operties Lists the properties for the PHYs for the selected controller. T able 61. Functions Performe d by the Configuration Utility continued Function Description book.book Page 37 Monday, September 15, 2008 247 PM Create New Array The Create New Array screen allows you to select disks for a new array. 1 P ress to create the array once the array is configur ed. 2 Save the changes when prompted to do so. 3 P ress to confirm the changes. After the array is created, the utility r eturns to the Adapter Properties scr een. See the table below for the array properties description. NOTE It is recommended that y ou back up your data prior to addin g or updating configurations. T

able 62. Array Field Descriptions Field Description Array Number Number of current array out of total arrays configur ed Array Identifier Identifier text for the curr ent array Array T ype T ype of array R1 or R0 Array Scan Order Scan order for the curr ent array Array Size MB Size of the array NOTE In order to facilitate coercion on ne w larger disk drives, the disk size must be coerced down with a factor of 128 MB. Additionally, to comply with the latest Disk Data Format standard, 512 MB of spa ce must be reserved for RAID metadata on the drive. This results in severa l hundred MB of space being removed from the usable size of an array when it is created. book.book Page 38 Monday, September 15, 2008 247 PM The array can be returned to the Optimal state by r eplacing the failed or offline member.

Disabled —The array has been disabled Quiesced —The array has been quiesced Res y nc —The array is resynchronizing F ailed —The array has failed P ermDegraded —The array is permanently de graded. This state indicates that the failure thr eshold on the pr imary member was reached while no secondary was available for correcti on. The data on the array may be accessible, but the array cannot be returned to the optimal state. Inactive —The imported array is inactive. The array must be activated before it can be accessed. Device Slot Number Slot number in which the specified device sits Device Identifier Identifier text for the specified device RAID Disk Specifies whether or not the disk is part of a RAID array Y es or No. Hotspare Specifies whether or not the disk is a hotspare T able 62. Array Field Descriptions continued Field Description book.book Page 39 Monday, September 15, 2008 247 PM F ailed Disk is not accessible or has reported a failur e. Initing Disk is initializing. CfgOffln Disk is offline at hosts request. UserF ail Disk is marked failed at hosts request. Offline Disk is offline for some other reason. Inactive Disk has been set to inactive. Not Syncd Data on disk is not synchron ized with the rest of the array. P rimary Disk is the primary disk for a 2 disk mirror and is OK. Secondary Disk is the secondary disk for a 2 disk mirror and is OK. Wr g T y p e Device is not compatible fo r use as part of a R AID array. T oo Small Disk is too small to mirror existing data. No SMAR T Disk doesnt support SMART and cant be used in a R AID array. Pre d i c t e d Fa i l u r e Indicates whether device SMAR T is predicting device failure. Size MB Actual physical size of the selected disk in the array. NOTE The SAS 6ir controllers do support Drive Status LED operation on Dell PowerEdge sy stems which include drive status LEDs. Status LED support is only supported for drives which ar e configured as members of a Virtual Disk or Hot Spare.

SAS 6iR supported Drive Status LED states may vary from those supported by other hardware based RAID so lutions such as PERC 6. NOTE Replacing a member of an array in the Permanently Degraded state will result in the new phy sical disk being displayed as fai led since resynchroniza tion is possible. This does not indicate an actual failure on the new phy sical disk. T able 62. Array Field Descriptions continued Field Description book.book Page 40 Monday, September 15, 2008 247 PM See the table above to view descriptions of each virtual disk property. Manage Array The Manage Array screen is used to manage the curr ent array. The options are Manage Hotspares, Synchronize Mirror, Activate Array, and Delete Array. A confirmation is requested for each action. T able 63. Manage Array Field Descriptions Field Description Identifier The identifier of the array T ype The RAID type of the array Scan Order The scan order of the array Size MB The coerced size of the array NOTE In order to facilitate c oercion on new larger disk drives, the disk size must be coerced down with a factor of 128 MB. Additionally, to comply with the latest Disk Data Form at standard, 512 MB of space must be reserved for RAID metadata on the drive. This resu lts in several hundred MB of space being removed from the usable size of an array when it is created. Status The status of the array Manage Hotspares This option is used to create or delete global hot spar es. Synchronize RAID 1 This option is used to synchronize the R1 array.Performing Configuration T asks Creating an Integrated Striping Virtual Disk An Integrated Striping IS virtual disk, al so referr ed to as RAID 0, offers the ability to stripe data across multiple physical disks. RAID 0 volumes offer increased capacity by combining multiple physical disks into a single virtual disk. R AID 0 volumes also offer incr eased performance by striping disk access across multiple physical disks.

The next scr een shows a list of disks that can be added to a virtual disk. 4 Move the cursor to the R AID Disk column. T o add a disk to the virtual disk, change “No” to “Y es” by pressi ng the,, or space bar. As disks are added, the V irtual Disk Size field changes to reflect the size of the new virtual disk. NOTICE All data will be lost upon creation of the virtual disk. Activate Array This option is used to activate an in active foreign array. The option is grayed out if there ar e no inactive arrays. Delete Array This option is used to delete the currently displayed array. T able 63. Manage Arra y Field Descriptions continued Field Description book.book Page 42 Monday, September 15, 2008 247 PM NOTICE RAID 0 does not provide any data prote ction in the event of disk failure. It is primarily used to increase performance. NOTE Once the number of disks in a RAID virtual disk is set, it cannot be changed. NOTE The maximum size of the virtual disk that contains the bootable operating sy stem is 2 T erabytes. This is due to op erating sy stem restrictions.The maximum array size nonbootable is 16 T erabytes. Creating a Integrated Mirroring Virtual Disk An Integrated Mirroring IM virtual disk, also referr ed to as RAID 1, offers the ability to mirror data from one ph ysical disk onto another one. R A ID 1 volumes offer increased r eliability by combining two physical disks into a single virtual disk such that each disk contains a mirrored copy of the other’s data. T o add a disk to the virtual disk, change “No” to “Y es” by pressing the,, or space bar. NOTICE Data on both disks will be lost. It is recommended that you back up all data before perf orming these steps. book.book Page 43 Monday, September 15, 2008 247 PM The Create RAID 1 screen allows the opti on to assign a hot spare. Only drives that are compatible with the new virtua l disk configuration can be selected. The maximum number of hot spares allowed is two.