



# Performing a Break-Mirror Operation Using Lifecycle Controller

This Dell Technical White Paper provides the procedure to perform Break-Mirror operation using Lifecycle Controller on the 12th Generation servers and later of Dell.

Dell Engineering  
November 2013

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## Revisions

Date	Description
Nov 2013	Initial release

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# Executive Summary

This whitepaper provides the procedure to perform Break-Mirror operation using Lifecycle Controller on the 12th generation servers and later of Dell.

## Introduction

Break-Mirror is a feature in the Lifecycle Controller of the 12th generation servers and later of Dell that is used to replicate the data from one server to another by safely breaking or isolating a RAID1 virtual disk. This feature enables easy operation by providing an intuitive, user-friendly graphical user interface (GUI).

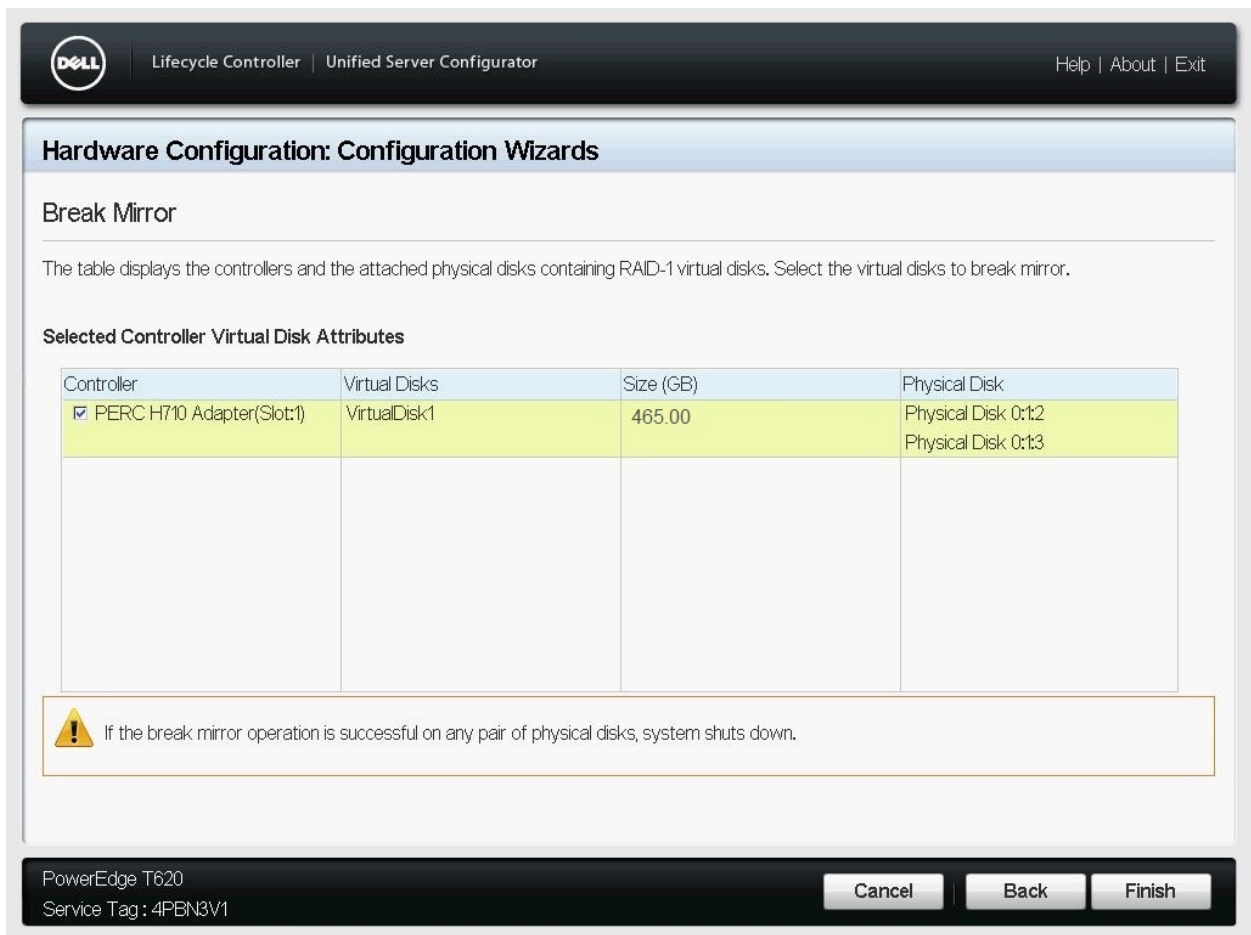


Figure 1 The Break-Mirror Page



# Performing Break-Mirror Operation Using Lifecycle Controller

1. To start **Lifecycle Controller**, press **<F10>** during **POST**.
2. In the left pane, click **Hardware Configuration**.



Figure 2 Lifecycle Controller Home page



3. In the left pane, click **Hardware Configuration**, and then click **Configuration Wizards**.

The screenshot displays the Dell Lifecycle Controller Unified Server Configurator interface. The top navigation bar includes the Dell logo, the text "Lifecycle Controller | Unified Server Configurator", and links for "Help | About | Exit". On the left, a dark sidebar menu lists several options: "Home", "Lifecycle Log", "Firmware Update", "Hardware Configuration" (which is highlighted), "OS Deployment", "Platform Restore", "Hardware Diagnostics", "Settings", and "System Setup". The main content area is titled "Hardware Configuration" and contains the following text: "Use Configuration Wizards to set up system and storage devices (for example, RAID, iDRAC, Encryption, and so on). Use the Hardware Inventory wizards to view or export Current and Factory Shipped inventory. Use Delete Configuration and Reset Defaults to delete the Lifecycle Controller configuration and restore the system to factory defaults." Below this text are three links: "Configuration Wizards" (highlighted in yellow), "Hardware Inventory", and "Delete Configuration and Reset Defaults". At the bottom of the main content area, there is an information icon (i) followed by a message: "The Hardware Inventory feature is disabled if the iDRAC firmware is not updated to the supported version. For supported iDRAC version for current version of Lifecycle Controller, see Lifecycle Controller Readme." The bottom status bar shows "PowerEdge T620" and "Service Tag : 4PBN3V1".

Figure 3 Hardware Configuration

4. On the **Hardware Configuration: Configuration Wizards** page, click **Break Mirror**.

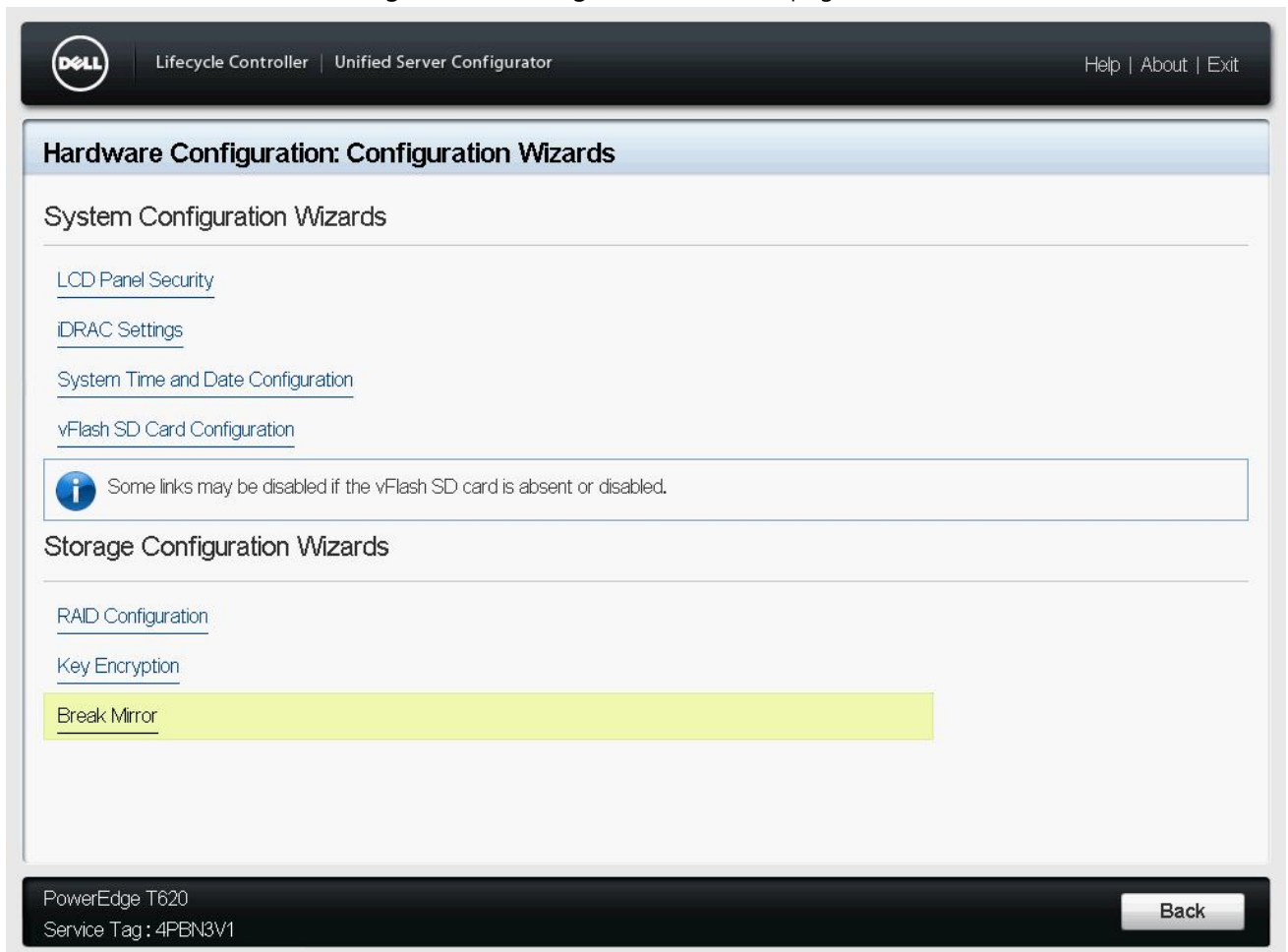


Figure 4 Configuration Wizards



- On the **Break Mirror** page, a list of all the virtual disks that are RAID1 break-mirror—capable is displayed. In the **Controller** column, select the option corresponding to the virtual disk on which you want to apply the break-mirror feature, and then click **Finish**.

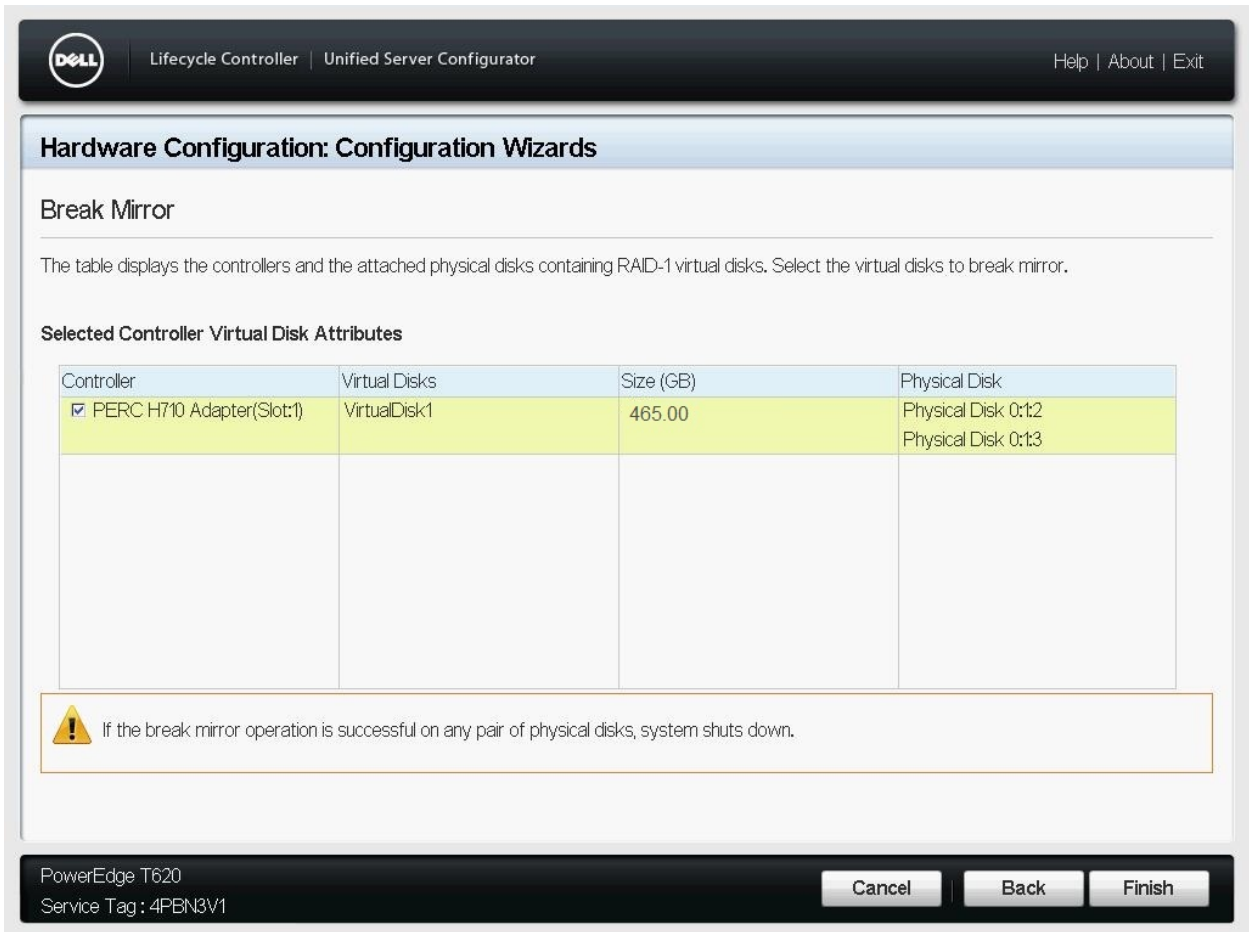


Figure 5 Break Mirror



After the break-mirror operation is successfully completed, a message is displayed to indicate that the server will be automatically turned off.

6. Click **Yes**.

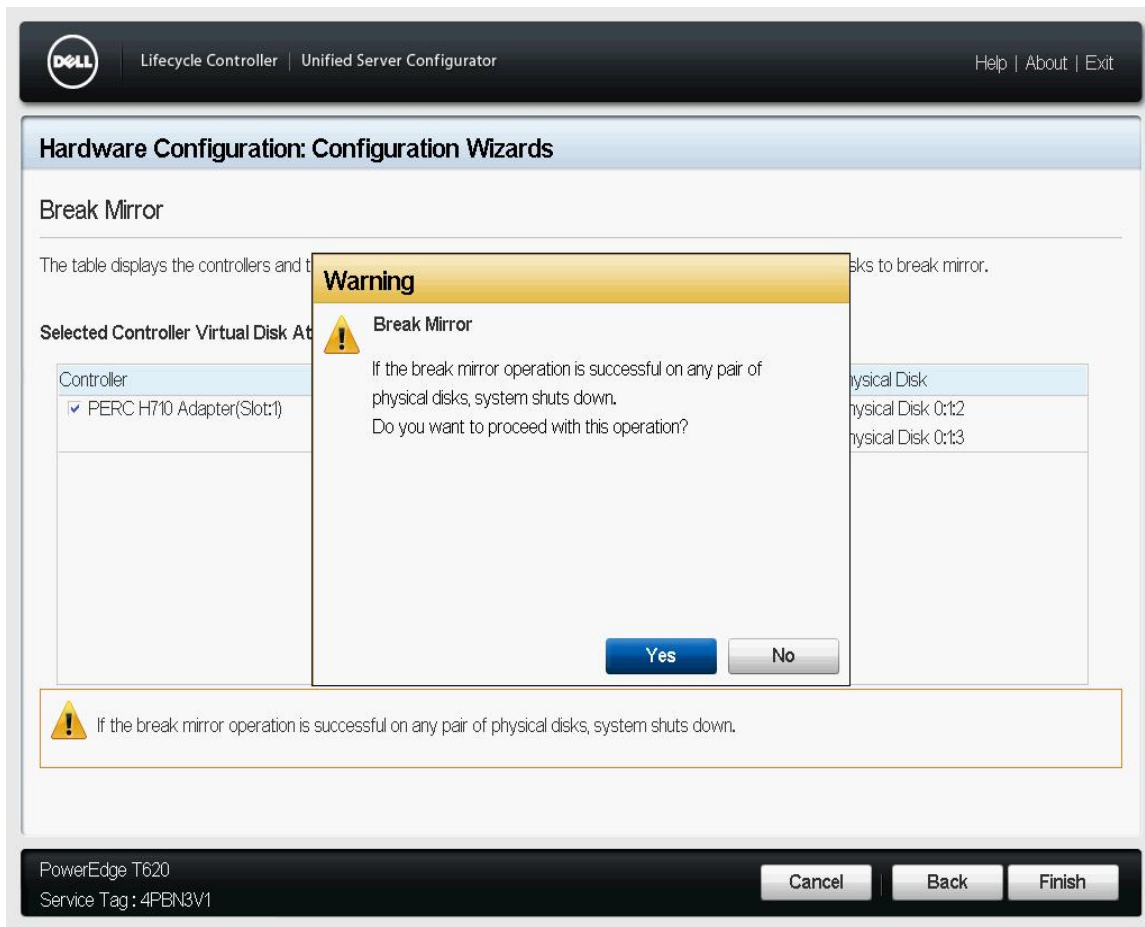


Figure 6 Break Mirror Confirmation

The break-mirror operation is completed successfully, and the LEDs corresponding to the HDDs start blinking.



7. Click **Shut down**.
8. Wait for the server to automatically turn off, remove the HDDs, and then turn on the server.

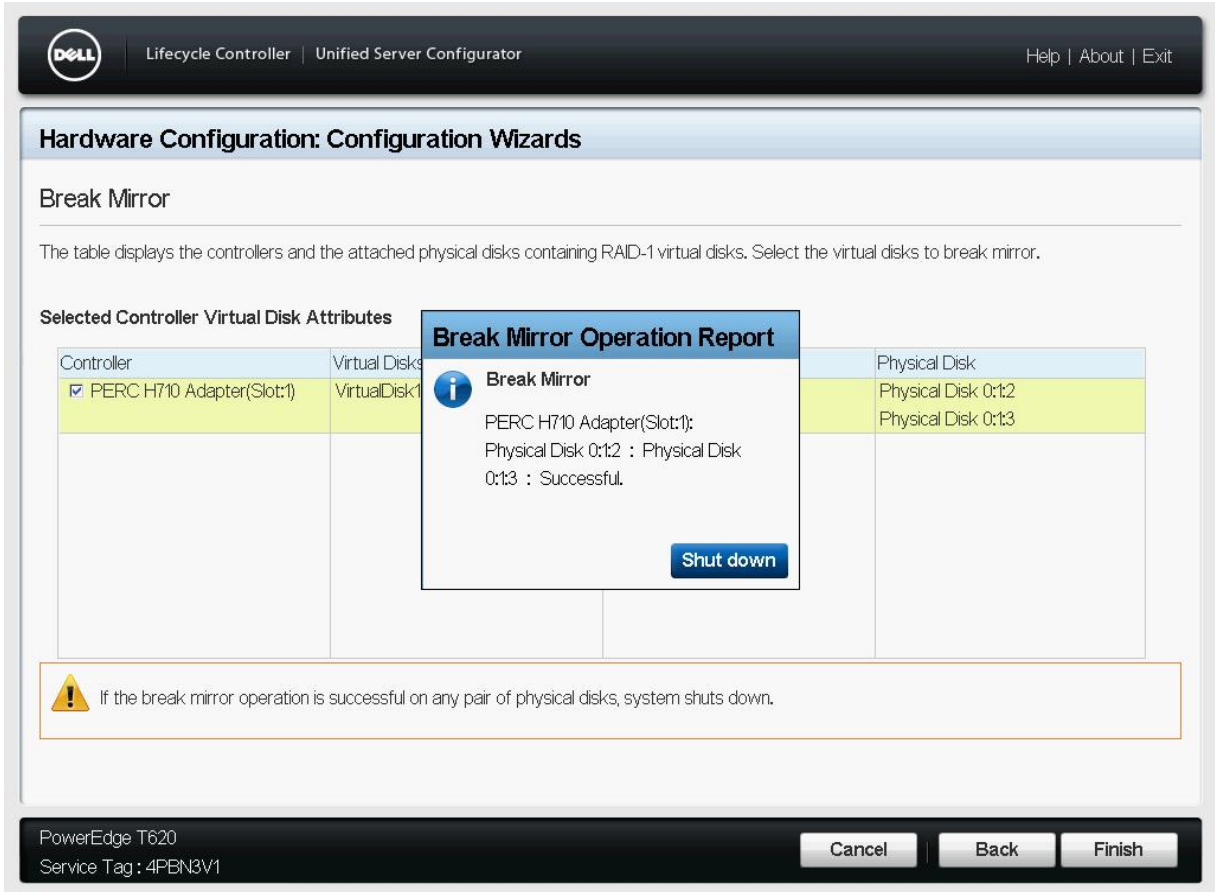


Figure 7 Break Mirror Confirmation



When you restart the server, Power-On-Self-Test (POST) indicates the status (of those virtual disks on which the break-mirror operation was performed) as **Degraded Virtual Disk**. The broken virtual disks are identified as **Degraded**.

```
System Memory Size: 2.0 GB, System Memory Speed: 1333 MHz, Voltage: 1.35V

Dell Serial ATA AHCI BIOS Version 1.0.2
Copyright (c) 1988-2012 Dell Inc.
Port E: PLDS DVD-ROM DH-16D6SH

Initializing Intel(R) Boot Agent GE v1.4.03
PXE 2.1 Build 091 (WfM 2.0)

PowerEdge Expandable RAID Controller BIOS
Copyright(c) 2011 LSI Corporation
Press <Ctrl><R> to Run Configuration Utility
HA -0 (Bus 1 Dev 0) PERC H710 Adapter
FW package: 21.1.0-0007

Foreign configuration(s) found on adapter
Press any key to continue or 'C' load the configuration utility,
or 'F' to import foreign configuration(s) and continue.

1 Virtual Drive(s) found on the host adapter.
1 Virtual Drive(s) Degraded

1 Virtual Drive(s) handled by BIOS
```

Figure 8 Degraded Virtual Disk



On the **Raid Configuration** page of Lifecycle Controller, these virtual disks are indicated as **Degraded** (in the **State** column).

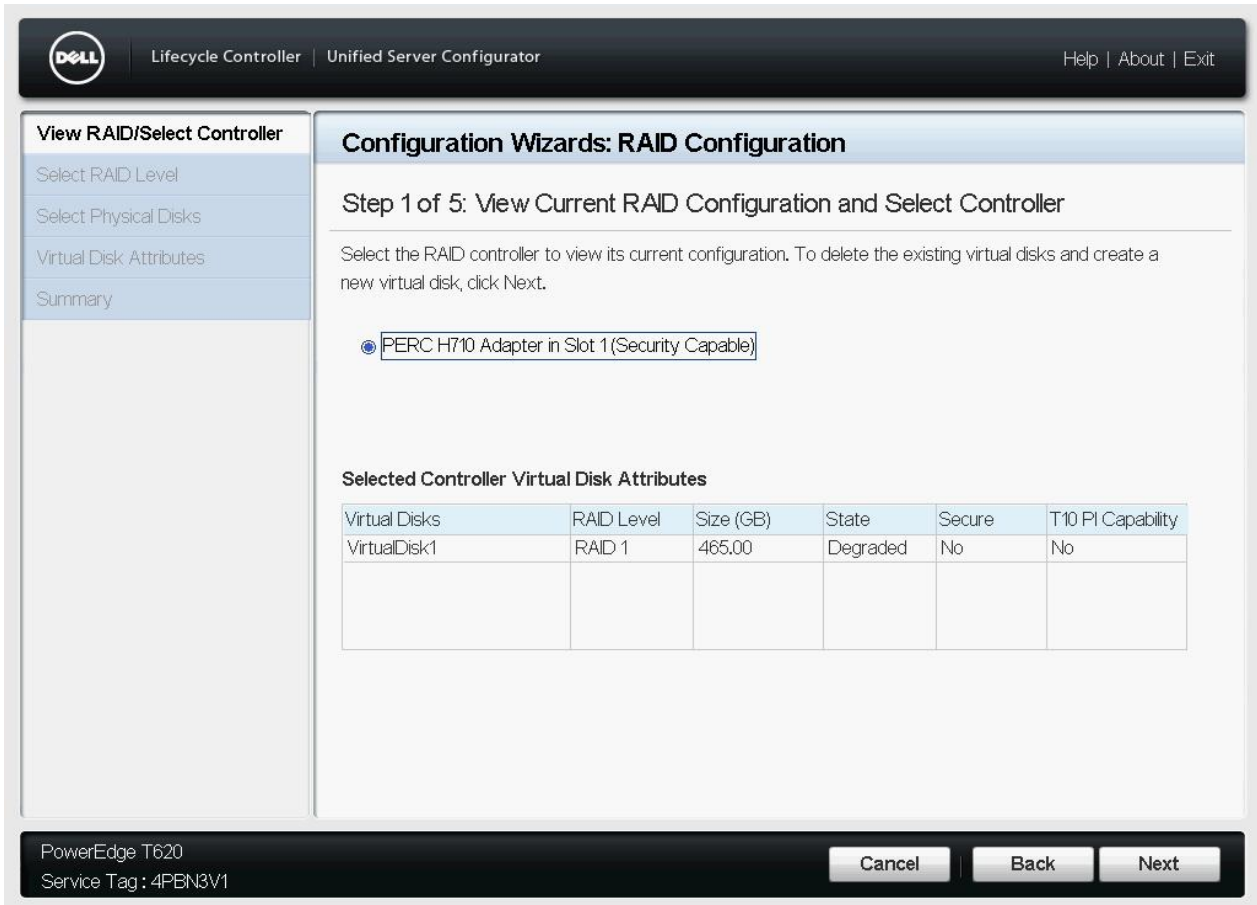


Figure 9 Degraded Virtual Disk in LC UI



## Pre-requisites

1. Break-Mirror operation can be performed only on RAID1 virtual disks.
2. System must have at least one RAID1 virtual disk to enable the Break-Mirror feature.

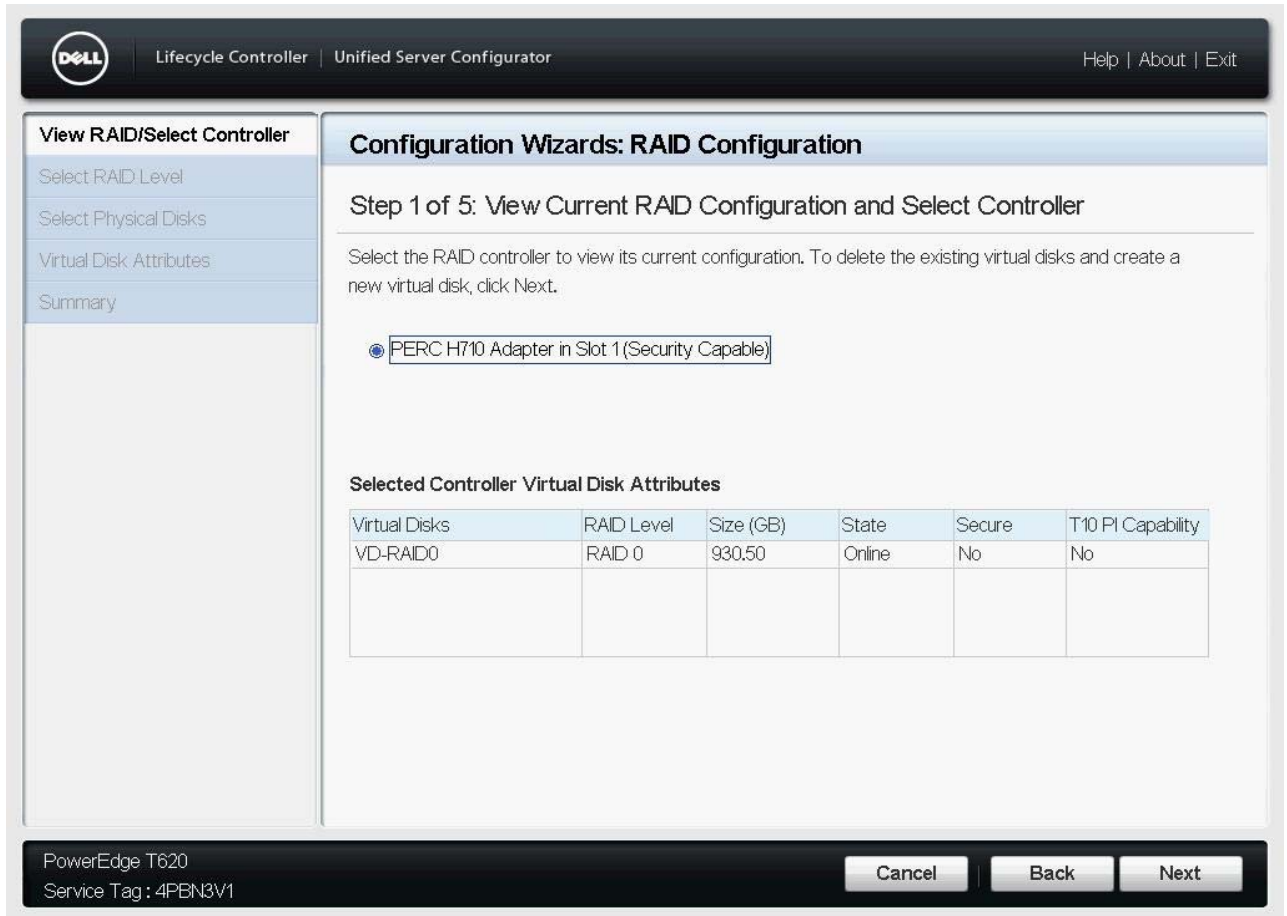


Figure 10 Break-Mirror Disabled-1



Figure 11 Break-Mirror Disabled-2

Notes:

- The time required to complete a Break-Mirror operation varies on the basis of number of virtual disk(s) selected for the Break Mirror operation.
- A Break-Mirror operation is not allowed when the initialization of virtual disk is in progress in the back-end. The Time required to complete the Background initialization process varies on the basis of size of the virtual disk.
- If the memory capacity of the virtual disk is higher, then longer duration is required to complete the background initialization of the virtual disk.

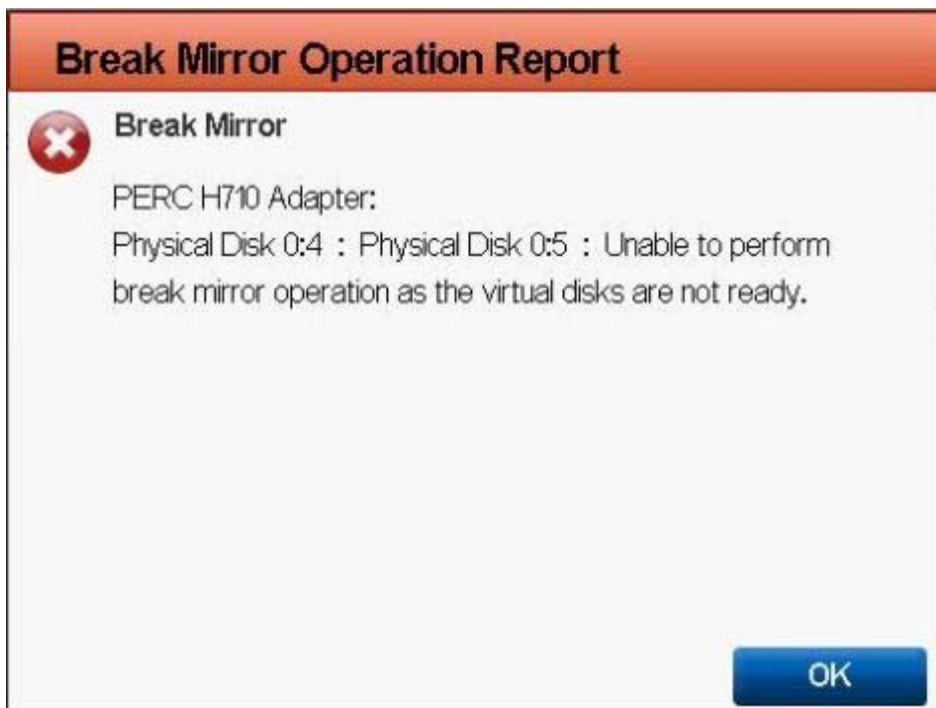


Figure 12 An Unsuccessfully Completed Break-Mirror Operation