Event log analysis PERC and Recovery procedure

Product Name = PERC H730 Adapter
Serial Number = 59500AH
System Time = 05/28/2021 18:45:04

Physical Drives = 3

PD LIST :

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EID:Slt DID State DG Size Intf Med SED PI SeSz Model Sp Type

:0 0 Failed 0 9.094 TB SATA HDD N N 512B ST10000DM0004-2GR11L U -

:1 1 Onln   0 9.094 TB SATA   HDD N N 512B   ST10000DM0004-2GR11L U -

:2 2 Failed 0 9.094 TB SATA HDD N N 512B   ST10000DM0004-1ZC101 U -

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Analisis Events Log

seqNum: 0x00001722
Time: Sat Jun 13 05:22:16 2020

Code: 0x00000072
Class: 0
Locale: 0x02
Event Description: State change on PD 02(e0xff/s2) from ONLINE(18) to FAILED(11)
Event Data:
===========
Device ID: 2
Enclosure Index: 255
Slot Number: 2
Previous state: 24
New state: 17

<Disk (device ID 2) on failure>

seqNum: 0x00001723
Time: Sat Jun 13 05:22:16 2020

Code: 0x00000051
Class: 0
Locale: 0x01
Event Description: State change on VD 00/0 from OPTIMAL(3) to DEGRADED(2)
Event Data:
===========

<Array changes to degraded due to disk ID 2 failed>.

seqNum: 0x000017fc
Time: Wed May 26 00:10:39 2021

Code: 0x00000072
Class: 0
Locale: 0x02
Event Description: State change on PD 00(e0xff/s0) from ONLINE(18) to FAILED(11)
Event Data:
==========
Device ID: 0
Enclosure Index: 255
Slot Number: 0
Previous state: 24
New state: 17

< Second disk failure (disk ID 0) >

seqNum: 0x000017fd
Time: Wed May 26 00:10:39 2021

Code: 0x00000051
Class: 0
Locale: 0x01
Event Description: State change on VD 00/0 from DEGRADED(2) to OFFLINE(0)
Event Data:
==========
Target Id: 0
Previous state: 2
New state: 0

< array 0 goes from degraded to offline due to second disk failure>

Conclusions

For any work on disks of a server it is always necessary to have a fullbackup of the Data and all the configuration parameters of server (IP, name, domain ...etc).

The equipment, at some point had 6 disks (ID 0 - 5), currently only 3 disks were detected.
Disk ID 2 (Slot 2) is the first to fail 13 January 2020
Disk ID 0 (Slot 0) is the second to fail 26 May 2021

Both disks present some errors before their failure and the time between the failure of the first disk and the second one is quite long, so the data is considered lost.

Recovery Procedure

Assuming that the data is lost in this Array, you could try (with no guarantee of success) the following:

1. set disk ID 0 to Online status with the following command.

    perccli /cx[/ex]/sx set online

    This command changes the drive state to online.

2. verify if the disks ID 1 and ID 0 remain with Online status.

    perccli /cx[/eall]/sall show

    This command shows the summary information for all the enclosures and physical drives

     connected to the controller.

3. if step 2 is fulfilled, obtain a full Backup of the VMs or move them to an external storage.

4. remove disk ID 2, wait 2 min and install a new disk in its place, wait for the rebuild of the Array to start.

    Array rebuild (with a 10TB disk, the rebuild time can be quite long).

5. check the rebuild % with the following command as well as the disk status

     perccli /cx[/ex]/sx show rebuild

    This command shows the progress of the rebuild process in percentage.

6. If the rebuild on slot 2 is successfully completed, wait 15min and take disk ID 0 offline with the following command

     perccli /cx[/ex]/sx set offline

    This command changes the drive state to offline.

7. remove disk ID 0, wait 2 min and install a new disk in its place, wait for the rebuild of the Array to start.

    Array (with a 10TB disk, the rebuild time can be quite long).

8. check the rebuild % with the following command as well as the status of the disks.

    perccli /cx[/ex]/sx show rebuild

   This command shows the progress of the rebuild process in percentage.

   perccli /cx[/eall]/sall show

   This command shows the summary information for all the enclosures and physical drives connected to the controller.

If the above procedure fails, just destroy the Array (Raid5), install the new disks and rebuild the Array and volume and then present it to the ESXi host.

Link: https://www.dell.com/support/manuals/en-us/poweredge-rc-h330/perc10_plus_hba_clirg/locate-drives-commands?guid=guid-7228091f-9541-4962-9f5f-2fe1e6dc11d3&lang=en-us