Hawaii DOT Request for Data Recovery Services for 24-Drive RAID Array 06

Description and Tasks

The RAID array failed on April 5, 2023 and the files and folder on the "G:" drive are no longer accessible. All hardware resolution efforts have been exhausted. The files and folders on this G: drive (24 physical drives) must now be recovered by any means necessary.

1. **Recovery all files and folders possible from the 24-drive RAID array (G: drive)**
2. **Delivery recovered files and folders on a new set of USB drives**

Promise Raid Array background

Promise RAID VTrak E830f

- Serial Number: V90012019761
- Total physical drives: 48 drives
- Storage: 1.81TB/drive
- Raid type: 6
- Two logical drives
    - F: drive - Logical drive 0: 24 drives, ~44 TB   <-- this drive is online and usable
    - **G: drive - Logical drive 1: 24 drives, ~44 TB   <-- drive offline, no drive letter, not accessible**

RAID is connected to this server: **Dell T610 Server 2008 R2**

- Pictures show the view from the server. F: drive is active. G: drive is listed as "Disk 3, unallocated".
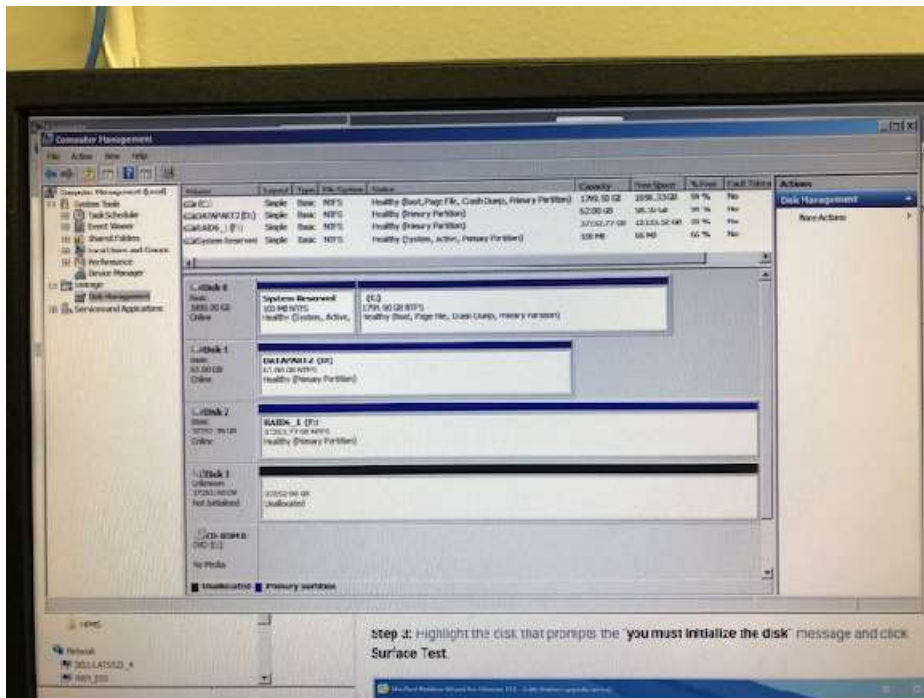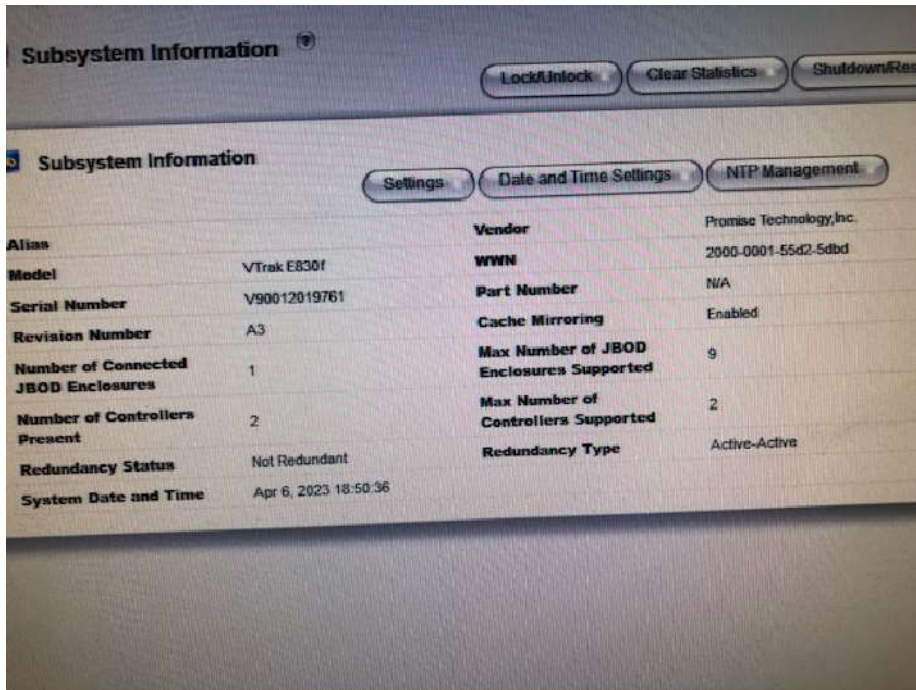- We don't want to initialize the G: drive. All data would be lost.

Additional configuration information

Two drives in "Array 1" were replaced the morning of the failure. Include these two drives in the recovery effort. Additional drives (4) were replaced in the weeks prior to the failure, these drives will be include in the recovery effort. We've focused on "Enclosure 2" and "Array 1", however, we noticed that one hard drive in the other Enclosure 1 appears to be part of Array 1. See picture.

Based on this will we need to remove/ship this drive (Encl 1, Slot 12) along with the other 24 drives from "Enclosure 2/Array 1"?
See pink box on the picture.

Pictures

Physical Drive List ⑦

Global Physical Drive Settings

ID	Type					☑ Expand All

Enclosure 1   SBB-SAS-4U-24Bay   △

ID	Status	Model Number	Type	Location	Configuration	Capacity
1	✅	SEAGATE ST32000444SS	SAS HDD	Encl 1 Slot 1	Array0 SeqNo0	2 TB
2	✅	SEAGATE DKS2C-H2R0SS	SAS HDD	Encl 1 Slot 2	Array0 SeqNo10	2 TB
3	✅	SEAGATE ST32000444SS	SAS HDD	Encl 1 Slot 3	Array0 SeqNo1	2 TB
4	✅	SEAGATE DKS2C-H2R0SS	SAS HDD	Encl 1 Slot 4	Array0 SeqNo15	2 TB
5	✅	SEAGATE ST32000444SS	SAS HDD	Encl 1 Slot 5	Array0 SeqNo4	2 TB
6	✅	SEAGATE ST32000444SS	SAS HDD	Encl 1 Slot 6	Array0 SeqNo5	2 TB
7	✅	SEAGATE ST32000444SS	SAS HDD	Encl 1 Slot 7	Array0 SeqNo6	2 TB
8	✅	SEAGATE ST32000444SS	SAS HDD	Encl 1 Slot 8	Array0 SeqNo7	2 TB
9	✅	SEAGATE DKS2C-H2R0SS	SAS HDD	Encl 1 Slot 9	Array0 SeqNo8	2 TB
10	✅	SEAGATE ST32000444SS	SAS HDD	Encl 1 Slot 10	Array0 SeqNo9	2 TB
11	✅	SEAGATE DKS2C-H2R0SS	SAS HDD	Encl 1 Slot 11	Array0 SeqNo3	2 TB
12	✅	SEAGATE DKS2C-H2R0SS	SAS HDD	Encl 1 Slot 12	Array1 SeqNo3	2 TB
13	✅	SEAGATE ST32000444SS	SAS HDD	Encl 1 Slot 13	Array0 SeqNo12	2 TB
14	✅	SEAGATE ST32000444SS	SAS HDD	Encl 1 Slot 14	Array0 SeqNo13	2 TB
15	✅	SEAGATE ST32000444SS	SAS HDD	Encl 1 Slot 15	Array0 SeqNo14	2 TB
16	✅	SEAGATE DKS2C-H2R0SS	SAS HDD	Encl 1 Slot 16	Array0 SeqNo20	2 TB
17	✅	SEAGATE ST32000444SS	SAS HDD	Encl 1 Slot 17	Array0 SeqNo16	2 TB
18	✅	SEAGATE ST32000444SS	SAS HDD	Encl 1 Slot 18	Array0 SeqNo17	2 TB
19	✅	SEAGATE ST32000444SS	SAS HDD	Encl 1 Slot 19	Array0 SeqNo18	2 TB
20	✅	SEAGATE DKS2C-H2R0SS	SAS HDD	Encl 1 Slot 20	Revert Global Spare	2 TB
21	✅	SEAGATE DKS2C-H2R0SS	SAS HDD	Encl 1 Slot 21	Array0 SeqNo11	2 TB
22	✅	SEAGATE ST32000444SS	SAS HDD	Encl 1 Slot 22	Array0 SeqNo21	2 TB
23	✅	SEAGATE ST32000444SS	SAS HDD	Encl 1 Slot 23	Array0 SeqNo2	2 TB
24	✅	SEAGATE DKS2C-H2R0SS	SAS HDD	Encl 1 Slot 24	Array0 SeqNo19	2 TB

Enclosure 2   SBB-SAS-4U-24Bay   △

ID	Status	Model Number	Type	Location	Configuration	Capacity
25	⚠️ Stale	SEAGATE ST32000444SS	SAS HDD	Encl 2 Slot 1	StaleConfig	2 TB
26	❌ Dead	SEAGATE DKS2C-H2R0SS	SAS HDD	Encl 2 Slot 2	Array1 SeqNo1	2 TB
27	⚠️ Stale	SEAGATE DKS2C-H2R0SS	SAS HDD	Encl 2 Slot 3	StaleConfig	2 TB
28	✅	SEAGATE DKS2C-H2R0SS	SAS HDD	Encl 2 Slot 4	Revert Global Spare	2 TB
29	❌ Dead	SEAGATE ST32000444SS	SAS HDD	Encl 2 Slot 5	Array1 SeqNo4	2 TB
30	❌ Dead	SEAGATE ST32000444SS	SAS HDD	Encl 2 Slot 6	Array1 SeqNo5	2 TB
31	❌ Dead	SEAGATE ST32000444SS	SAS HDD	Encl 2 Slot 7	Array1 SeqNo6	2 TB
32	❌ Dead	SEAGATE ST32000444SS	SAS HDD	Encl 2 Slot 8	Array1 SeqNo7	2 TB