

# Zone and Unzone DataON™ DNS-4760 JBOD

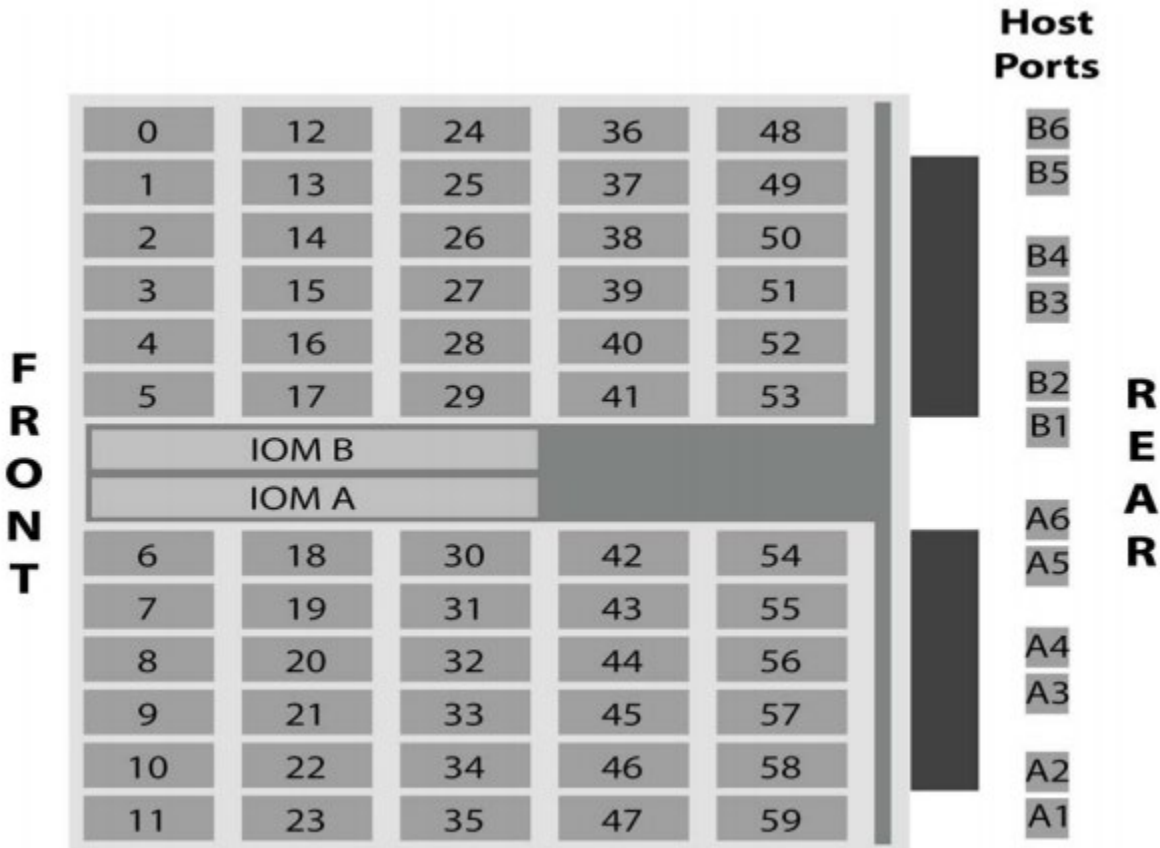
Below are the steps to Zone and Unzone DataON™ DNS-4760 JBOD.

First, we will go through the 4 zoning configurations.

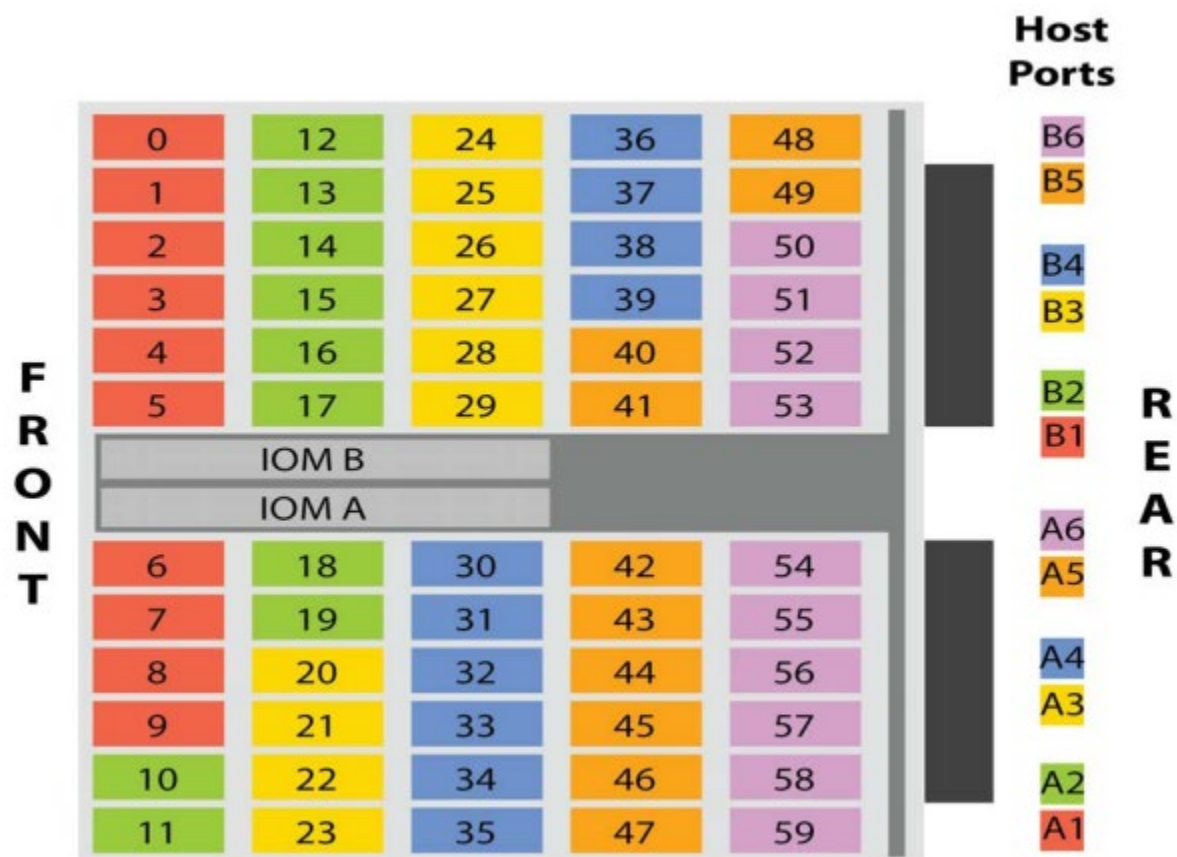
## Zoning Configurations

Please refer below on which zoning you would like to configure. Each zone below is color-coded to read and write from the color-coded host ports it represents. (If you are color blind, please have someone verify the color for you)

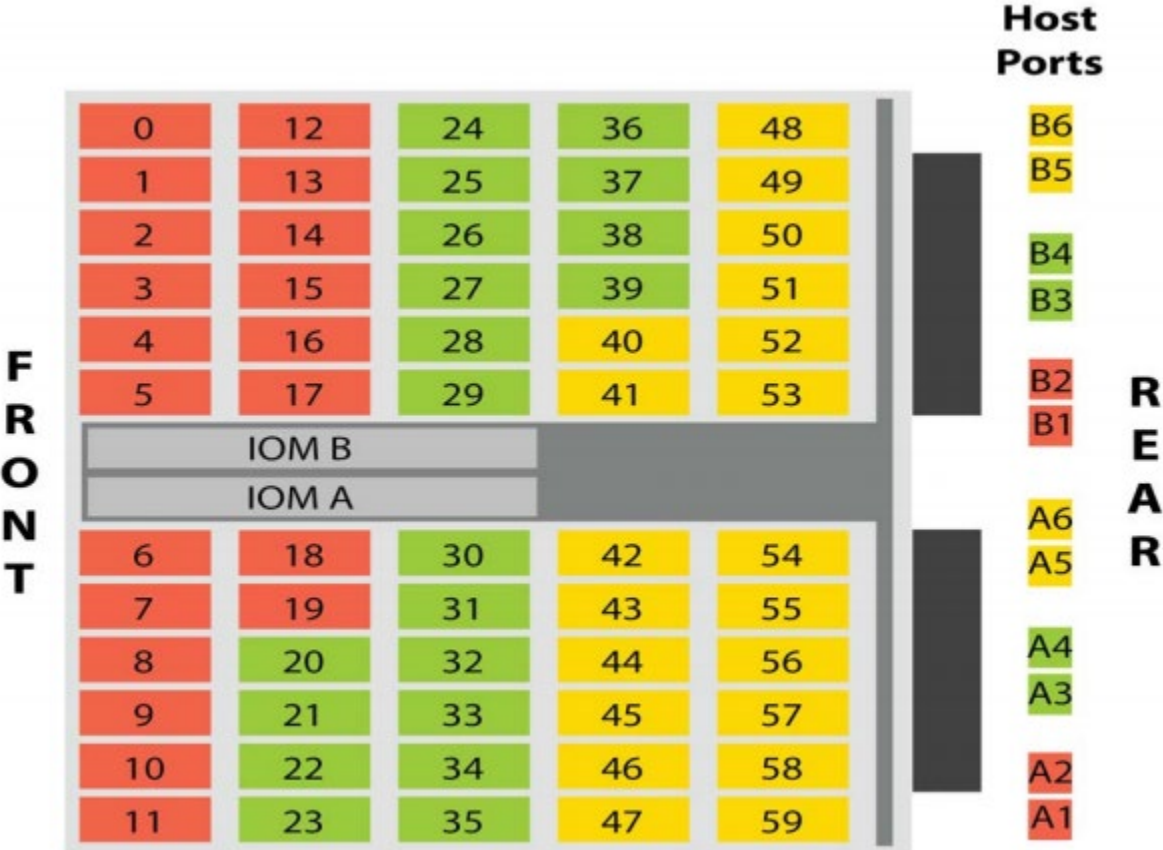
**Configuration 0:** Configuration 0 is the default zone for all DNS-4760. In this setting all host ports can see all drives. This zone configuration is use when unzoning.



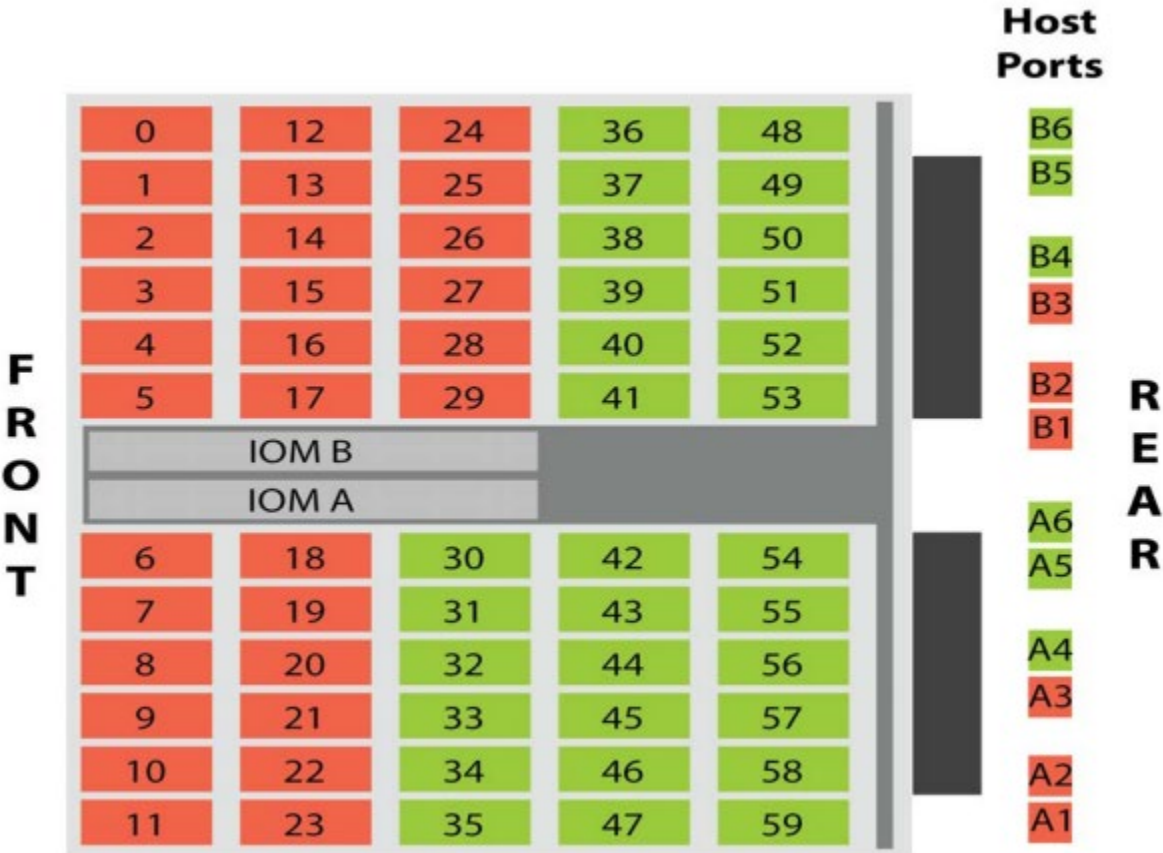
**Configuration 1:** Configuration 1 is use when you want six zones. Host ports A1 and B1 will read and write to the first 10 drives. Host ports A2 and B2 will read the next 10 drives (and etc.)



**Configuration 2:** Configuration 2 will create three zone. Host ports A1, A2, B1, and B2 will control the first 20 drives. A3, A4, B3, and B4 will control the next 20 drives and so on.



**Configuration 3:** Configuration 3 is a dual zone configuration. The first 30 drives are control by the host ports A1-3 and B1-3. The next 30 drives are control by host ports A4-5 and B4-5.



# Configure ZONING

## Prerequisites for Zoning:

1. Two Cable connected to either side IOM of the JBOD.
2. Choose the zoning (Configuration 0, 1, 2 or 3)
3. Download Sg3 Utils from [http://sg.danny.cz/sg/sg3\\_utils.html](http://sg.danny.cz/sg/sg3_utils.html)
4. Perform updates to the JBOD and drives before zoning as it will be easier to update prior to zoning.

## Steps

1. Open administrative PowerShell and navigate to the Sg3 Utils folder. Once in the folder run

```
.\sg_scan.exe -s
```

This command will return the SCSI devices that the IOM is attach to.

```
PS C:\Users\Administrator\Desktop\sg3_utils-1.42_mw64exe\sg3_utils-1.42_mw64exe> .\sg_scan.exe -s
PDO [C] Intel Raid 1 Volume 1.0 OS
SCSI0:6,1,0 claimed=1 pdt=0h Intel Raid 1 Volume 1.0.
SCSI2:6,22,0 claimed=1 pdt=0h WDC WUSTR6480ASS200 A957
SCSI2:6,23,0 claimed=1 pdt=0h WDC WUSTR6480ASS200 A957
SCSI2:6,24,0 claimed=1 pdt=0h WDC WUSTR6480ASS200 A957
SCSI2:6,30,0 claimed=0 pdt=dh HGST H4060-J 2040
SCSI2:6,43,0 claimed=1 pdt=0h WDC WUH721414AL4204 C240
SCSI2:6,44,0 claimed=1 pdt=0h WDC WUH721414AL4204 C240
SCSI2:6,45,0 claimed=1 pdt=0h WDC WUH721414AL4204 C240
SCSI2:6,46,0 claimed=1 pdt=0h WDC WUH721414AL4204 C240
SCSI2:6,47,0 claimed=1 pdt=0h WDC WUH721414AL4204 C240
SCSI2:6,48,0 claimed=1 pdt=0h WDC WUH721414AL4204 C240
SCSI2:6,49,0 claimed=1 pdt=0h WDC WUH721414AL4204 C240
SCSI2:6,50,0 claimed=1 pdt=0h WDC WUH721414AL4204 C240
SCSI2:6,51,0 claimed=1 pdt=0h WDC WUH721414AL4204 C240
SCSI2:6,52,0 claimed=1 pdt=0h WDC WUH721414AL4204 C240
SCSI2:6,53,0 claimed=1 pdt=0h WDC WUH721414AL4204 C240
SCSI2:6,54,0 claimed=1 pdt=0h WDC WUH721414AL4204 C240
SCSI2:6,55,0 claimed=1 pdt=0h WDC WUH721414AL4204 C240
SCSI2:6,56,0 claimed=1 pdt=0h WDC WUH721414AL4204 C240
SCSI2:6,57,0 claimed=1 pdt=0h WDC WUH721414AL4204 C240
SCSI2:6,58,0 claimed=1 pdt=0h WDC WUH721414AL4204 C240
SCSI2:6,59,0 claimed=1 pdt=0h WDC WUH721414AL4204 C240
SCSI2:6,60,0 claimed=1 pdt=0h WDC WUH721414AL4204 C240
SCSI2:6,61,0 claimed=1 pdt=0h WDC WUH721414AL4204 C240
SCSI2:6,62,0 claimed=1 pdt=0h WDC WUH721414AL4204 C240
SCSI2:6,63,0 claimed=1 pdt=0h WDC WUH721414AL4204 C240
SCSI2:6,64,0 claimed=1 pdt=0h WDC WUH721414AL4204 C240
SCSI2:6,65,0 claimed=1 pdt=0h WDC WUH721414AL4204 C240
SCSI2:6,66,0 claimed=1 pdt=0h WDC WUH721414AL4204 C240
SCSI2:6,67,0 claimed=1 pdt=0h WDC WUH721414AL4204 C240
SCSI2:6,68,0 claimed=1 pdt=0h WDC WUH721414AL4204 C240
SCSI2:6,69,0 claimed=1 pdt=0h WDC WUH721414AL4204 C240
SCSI2:6,103,0 claimed=0 pdt=dh HGST H4060-J 2040
PS C:\Users\Administrator\Desktop\sg3_utils-1.42_mw64exe\sg3_utils-1.42_mw64exe> _
```

Example above show that IOMA and IOMB is attach to SCSI2:6,30,0 and SCSI2:6,103,0

**Note: Please perform any updates before zoning.**

2. Next run the PowerShell command to locate the IP address for the IOM. Replace `<dev>` with the SCSI address you found previously.

```
.\sg_ses.exe <dev> -p7 | findstr /i esce
```

```
PS C:\Users\Administrator\Desktop\sg3_utils-1.42_mw64exe\sg3_utils-1.42_mw64exe> .\sg_ses.exe SCSI2:6,30,0 -p/ | findstr /i esce
Element 0 descriptor: ESCE IOMA,1EB1049-A2 ,THCLS04919EG00BB ,5000CCAB040FD9BC,,00:0c:ca:08:34:9d,2.3.8
Element 1 descriptor: ESCE IOMB,1EB1049-A2 ,THCLS04919EG00B4 ,5000CCAB040FD9FC,,00:0c:ca:08:34:ed,2.3.8
```

```
Element 0 descriptor: ESCE IOMA,1EB1049-A2 ,THCLS04919EG00BB ,5000CCAB040FD9BC,,00:0c:ca:08:34:9d,2.3.8
```

```
,5000CCAB040FD9BC,
,5000CCAB040FD9FC,
```

The example above show that our IOM IP address are 5000CCAB040FD9BC for IOMA and 5000CCAB040FD9FC for IOMB.

- Now you need to associate the correct IP address to the correct SCSI address by running the following command. Replace `<dev>` with the SCSI address you found previously.

```
.\sg_vpd.exe <dev> -p0x83
```

```
PS C:\Users\Administrator\Desktop\sg3_utils-1.42_mw64exe\sg3_utils-1.42_mw64exe> .\sg_vpd.exe SCSI2:6,30,0 -p0x83
Device Identification VPD page:
Addressed logical unit:
designator type: NAA, code set: Binary
0x5000ccab040fd9fc
```

Here you see that the SCSI address SCSI2:6,30,0 is associated with the IOMB.

- To Zone the JBOD4760 the following command for both IOM:

```
.\sg_senddiag.exe <a> --pf --raw=04,00,00,90,<b>,<c>,00,00,<d>
```

Replace the following with appropriate information below:

- `<a>` = SCSI address
- `<b>` = Zone enabling
  - 60 = disable
  - 61 = enable
- `<c>` = Zone configuration (For drives placement for each zone. Refer to Zoning Configuration above)
  - 00 = no zones
  - 01 = 6 zones with 10 drives
  - 02 = 3 zones with 20 drives
  - 03 = 2 zones with 30 drives
- `<d>` = IOM IP address

Example of the following output:

IOMA:

```
.\sg_senddiag.exe SCSI2:6,103,0 --pf --raw=04,00,00,90,61,03,00,00,50,00,CC,AB,04,0F,D9,BC
```

IOMB:

```
.\sg_senddiag.exe SCSI2:6,30,0 --pf --raw=04,00,00,90,61,03,00,00,50,00,CC,AB,04,0F,D9,FC
```

Note: IOM address are separated with a comma every two hex.

5. Apply the commands on the PowerShell. If it returns an error, check for IOM address or SCSI address if it corrects. There is no need to reboot the IOM module as it will be zone if done correctly.

# DISABLE ZONING

## Steps

1. Open administrative PowerShell and navigate to the Sg3 Utils folder. Once in the folder run

```
.\sg_scan.exe -s
```

This command will return the SCSI devices that the IOM is attach to.

2. Next run the PowerShell command to locate the IP address for the IOM. Replace `<dev>` with the SCSI address you found previously.

```
.\sg_ses.exe <dev> -p7 | findstr /i esce
```

3. Verify the associate the IOM IP address to the correct SCSI address by running the following command. Replace `<dev>` with the SCSI address you found previously.

```
.\sg_vpd.exe <dev> -p0x83
```

4. To disable Zoning, run the following command for both IOM:

```
.\sg_senddiag.exe <a> --pf --raw=04,00,00,90,<b>,<c>,00,00,<d>
```

Make sure that:

`<b>` = 60

`<c>` = 00

Using the same SCSI and IOM as before, the example below we see that `<b>` and `<c>` has change to 60 and 00 both IOM:

IOMA:

```
.\sg_senddiag.exe SCSI2:6,103,0 --pf --raw=04,00,00,90,60,00,00,00,50,00,CC,AB,04,0F,D9,BC
```

IOMB:

```
.\sg_senddiag.exe SCSI2:6,30,0 --pf --raw=04,00,00,90,60,00,00,00,50,00,CC,AB,04,0F,D9,FC
```

5. Once you have disabled the zoning for each IOM. You must reset each IOM for the setting to take place. Use the following command for both IOM and replace `<dev>` with the SCSI. You must wait one minute or two before you can reset the other IOM.

```
.\sg_ses.exe <dev> -p4 -c -d 02,00,00,00
```

Example of command using the SCSI in the previous example:



IOMA:

```
.\sg_ses.exe SCSI2:6,103,0 -p4 -c -d 02,00,00,00
```

```
PS C:\Users\Administrator\Desktop\sg3_utils-1.42_mw64exe\sg3_utils-1.42_mw64exe> .\sg_ses.exe SCSI2:6,103,0 -p4 -c -d 02,00,00,00
HGST H4060-J 2040
Sending String Out [0x4] page, with page length=4 bytes
No errors
```

IOMB:

```
.\sg_ses.exe SCSI2:6,30,0 -p4 -c -d 02,00,00,00
```

```
PS C:\Users\Administrator\Desktop\sg3_utils-1.42_mw64exe\sg3_utils-1.42_mw64exe> .\sg_ses.exe SCSI2:6,30,0 -p4 -c -d 02,00,00,00
HGST H4060-J 2040
Sending String Out [0x4] page, with page length=4 bytes
No errors
```

Error:

```
PS C:\Users\Administrator\Desktop\sg3_utils-1.42_mw64exe\sg3_utils-1.42_mw64exe> .\sg_ses.exe SCSI2:6,30,0 -p4 -c -d 02,00,00,00
inquiry: transport: The system cannot find the file specified.

SCSI2:6,30,0 doesn't respond to a SCSI INQUIRY
Some other error/warning has occurred, possible transport of driver issue
Problem detected, try again with --verbose option for more information
```

**Note:** If you see the following error, this mean that you have reset one IOM and it has not fully reset and come back online. You will have to wait for that IOM to come back online before sending the reset command for the next IOM module. Use [Get-StorageEnclosure](#) to verify that IOM have come back online.

- Use the following command to check if both IOM have full reset and come back online:

### Get-StorageEnclosure

```
PS C:\Users\Administrator\Desktop\sg3_utils-1.42_mw64exe\sg3_utils-1.42_mw64exe> Get-StorageEnclosure

FriendlyName  SerialNumber      OperationalStatus HealthStatus  NumberOfSlots ElementTypesInError
-----
HGST H4060-J  USWSJ01320EZ0038 OK                Healthy       60

PS C:\Users\Administrator\Desktop\sg3_utils-1.42_mw64exe\sg3_utils-1.42_mw64exe> Update-StorageProviderCache -DiscoveryLevel Full
PS C:\Users\Administrator\Desktop\sg3_utils-1.42_mw64exe\sg3_utils-1.42_mw64exe> Update-StorageProviderCache -DiscoveryLevel Full
PS C:\Users\Administrator\Desktop\sg3_utils-1.42_mw64exe\sg3_utils-1.42_mw64exe> Update-StorageProviderCache -DiscoveryLevel Full
PS C:\Users\Administrator\Desktop\sg3_utils-1.42_mw64exe\sg3_utils-1.42_mw64exe> Update-StorageProviderCache -DiscoveryLevel Full
PS C:\Users\Administrator\Desktop\sg3_utils-1.42_mw64exe\sg3_utils-1.42_mw64exe> Update-StorageProviderCache -DiscoveryLevel Full
PS C:\Users\Administrator\Desktop\sg3_utils-1.42_mw64exe\sg3_utils-1.42_mw64exe> Update-StorageProviderCache -DiscoveryLevel Full
PS C:\Users\Administrator\Desktop\sg3_utils-1.42_mw64exe\sg3_utils-1.42_mw64exe> Get-StorageEnclosure

FriendlyName  SerialNumber      OperationalStatus HealthStatus  NumberOfSlots ElementTypesInError
-----
HGST H4060-J  USWSJ01320EZ0038 OK                Healthy       60
HGST H4060-J  USWSJ01320EZ0038 OK                Healthy       60
```

Here we see that IOMB has been reset and come back online.

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