PCIe Gen 4 3U Short Depth AMD Server

SDS-3U-4a

User Manual

SKU: SDS-3U-4a

No.	Description
34	Chassis ID Jumper (CHASSIS_ID0)
35	Front Panel Type C USB 3.1 Gen2 Header (USB31_TC_2)
36	2 x 288-pin DDR4 DIMM Slots (DDR4_B1, DDR4_D1)**
37	2 x 288-pin DDR4 DIMM Slots (DDR4_A1, DDR4_C1)**
38	TPM-SPI Header (TPM_BIOS_PH1)
39	2 x 288-pin DDR4 DIMM Slots (DDR4_E1, DDR4_G1)**
40	2 x 288-pin DDR4 DIMM Slots (DDR4_F1, DDR4_H1)**
41	NVDIMM Power Support Jumper (NV12V_4)
42	NVDIMM Power Support Jumper (NV12V_2)

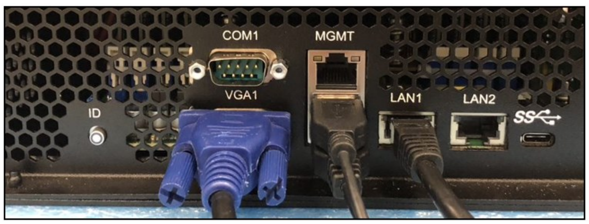
3 Setting Up

3.1 Installation-Procedures Overview

C c cab
C c a b a
C c E cab
P c bac
P c ON
L

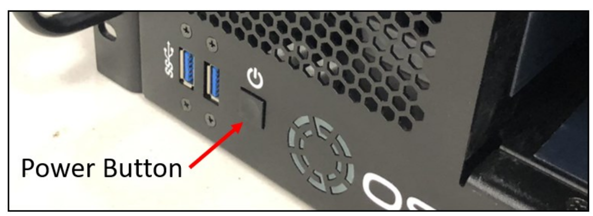
3.2 Connect IO Cables

C c b a a cab



3.3 Power ON the Unit

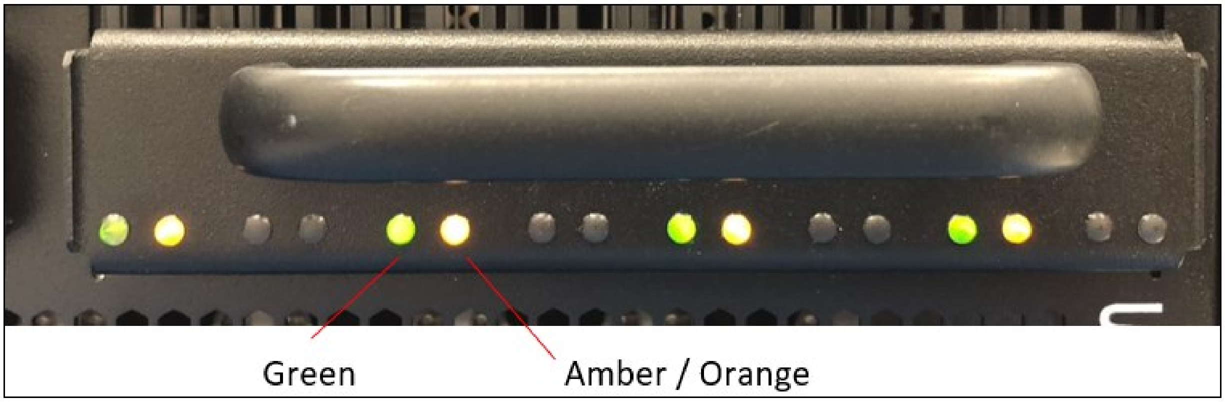
C c c P c b ON



U ON LED a

- LOGO a a b P LED a a B ca a b

- F a LED a a a a b
  - S c ca a a a ca
  - S A b N Ac B A b Ac
  - I AMBER LED a a IPMI a c a c a C ac T c ca S a a c OSS c



3.4 Log in

Y ca L acc c a I a a O a S acc c a

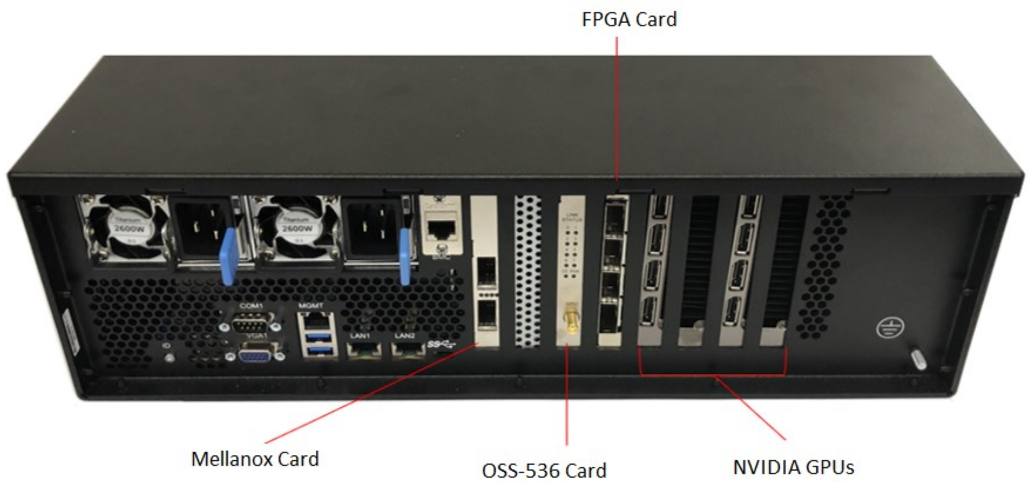
U a
Pa

Y ca a OS a a OS

4 Verify PCIe cards / Devices

T a PCI ca a SDS O a a a PCI ca a

OSS ca a c ca
O NVIDIA GPU
O M a ca a



T c c OSS a c ca OSS c b

```
[root@localhost ~]# lspci -vvv | grep 02b2
03:00.0 System peripheral: Broadcom / LSI Device 02b2 (rev b0)
05:00.0 System peripheral: Broadcom / LSI Device 02b2 (rev b0)
07:00.0 System peripheral: Broadcom / LSI Device 02b2 (rev b0)
09:00.0 System peripheral: Broadcom / LSI Device 02b2 (rev b0)
0b:00.0 System peripheral: Broadcom / LSI Device 02b2 (rev b0)
0c:00.0 System peripheral: Broadcom / LSI Device 02b2 (rev b0)
0d:00.0 System peripheral: Broadcom / LSI Device 02b2 (rev b0)
0e:00.0 System peripheral: Broadcom / LSI Device 02b2 (rev b0)
0f:00.0 System peripheral: Broadcom / LSI Device 02b2 (rev b0)
10:00.0 System peripheral: Broadcom / LSI Device 02b2 (rev b0)
11:00.0 System peripheral: Broadcom / LSI Device 02b2 (rev b0)
[root@localhost ~]#
```

T c c NVIDIA GPU a S b

```
[root@localhost ~]# nvidia-smi
Fri Dec 10 14:24:33 2021
+-----------------------------------------------------------------------------+
| NVIDIA-SMI 470.86       Driver Version: 470.86       CUDA Version: 11.4     |
|-------------------------------+----------------------+----------------------+
| GPU  Name        Persistence-M| Bus-Id        Disp.A | Volatile Uncorr. ECC |
| Fan  Temp  Perf  Pwr:Usage/Cap|         Memory-Usage | GPU-Util  Compute M. |
|                               |                      |               MIG M. |
|===============================+======================+======================|
|   0  NVIDIA RTX A6000    Off  | 00000000:82:00.0 Off |                  Off |
| 30%   28C    P8     4W / 300W |      0MiB / 48685MiB |      0%      Default |
|                               |                      |                  N/A |
+-------------------------------+----------------------+----------------------+
|   1  NVIDIA RTX A6000    Off  | 00000000:C1:00.0 Off |                  Off |
| 30%   34C    P8    21W / 300W |      0MiB / 48685MiB |      0%      Default |
|                               |                      |                  N/A |
+-------------------------------+----------------------+----------------------+

+-----------------------------------------------------------------------------+
| Processes:                                                                  |
|  GPU   GI   CI        PID   Type   Process name                  GPU Memory |
|        ID   ID                                                   Usage      |
|=============================================================================|
|  No running processes found                                                 |
+-----------------------------------------------------------------------------+
[root@localhost ~]#
```

T c c NVME S a b

root@localhost:~

```
[root@localhost ~]# nvme -list
Node             SN                   Model                                    Namespace Usage                      Format           FW Rev
---------------- -------------------- ---------------------------------------- --------- -------------------------- ---------------- --------
/dev/nvme0n1     81P0A00XT5L8         KCD6FLUL15T3                             1         279.84  GB /  15.36  TB    512   B +  0 B   0105
/dev/nvme1n1     81P0A014T5L8         KCD6FLUL15T3                             1         279.93  GB /  15.36  TB    512   B +  0 B   0105
/dev/nvme2n1     81P0A00WT5L8         KCD6FLUL15T3                             1         279.83  GB /  15.36  TB    512   B +  0 B   0105
/dev/nvme3n1     81P0A011T5L8         KCD6FLUL15T3                             1         279.91  GB /  15.36  TB    512   B +  0 B   0105
/dev/nvme4n1     BTLJ118301T51P0FGN   INTEL SSDPE2KX010T8                      1           1.00  TB /   1.00  TB    512   B +  0 B   VDV10131
[root@localhost ~]#
```

T c c M a c M a

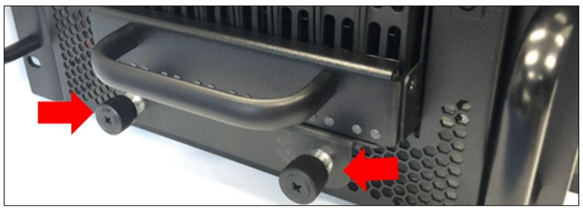
```
[root@switch11 ~]# lspci | grep Mellanox
81:00.0 Ethernet controller: Mellanox Technologies MT27500 Family [ConnectX-3]
[root@switch11 ~]#
```

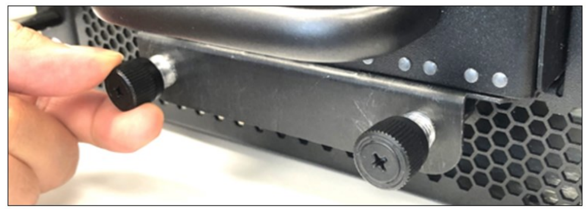
5 Storage Drive Installation

5.1 Remove Drive Pack

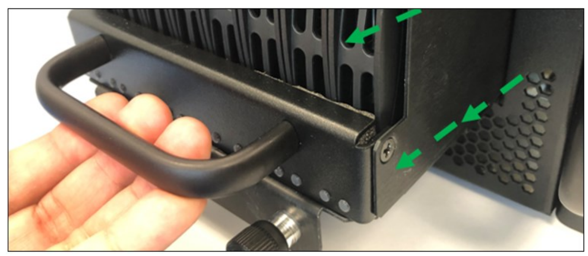
T OFF a a a a D ac

T T b c c c c D ac

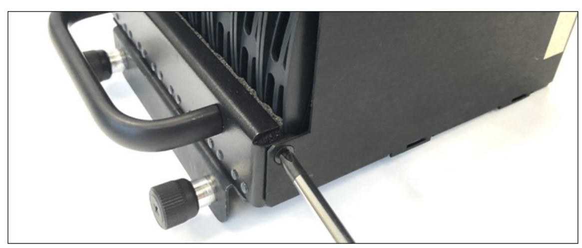




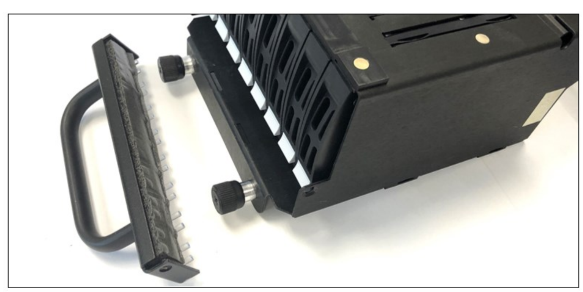
G ab D ac a a D ac a a c



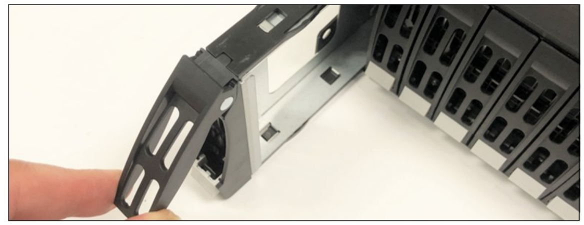
S D ac a ac R c ac



D a acc a

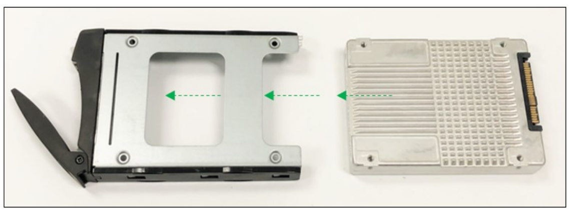


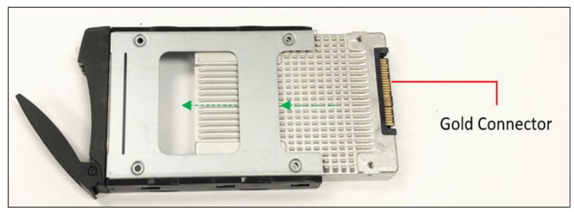
P c b a a a a



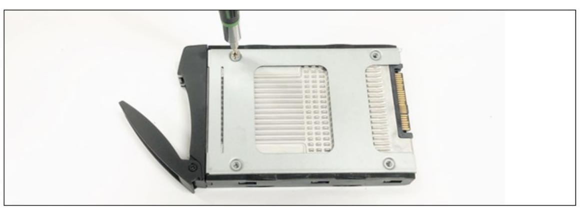
5.2 Install Storage Drive

P ac a a a a ab ac c a a ab b c S a a
c c ac a b

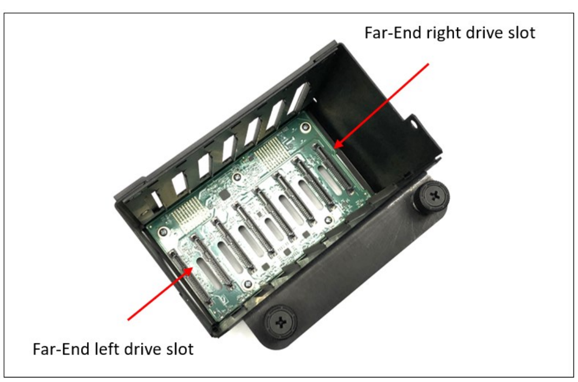




Ca a b a a a S c a a c

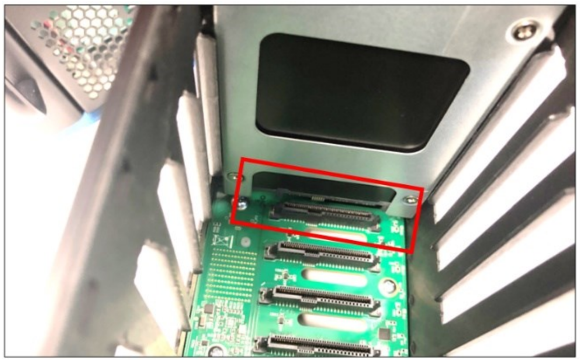


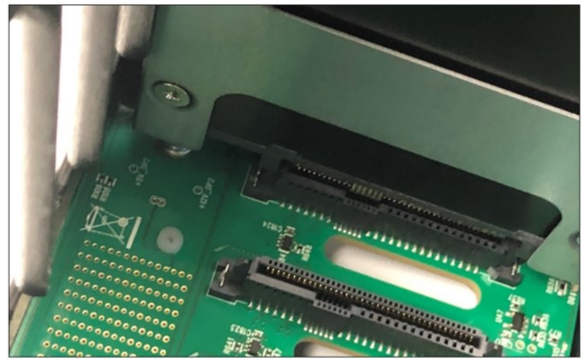
P ac D ac a ac a ca W a a a a a
T b b a a a a



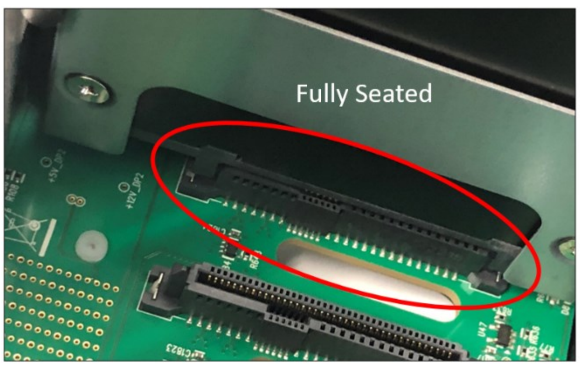
S a a c c a b c c

a





Important Ma c c a b

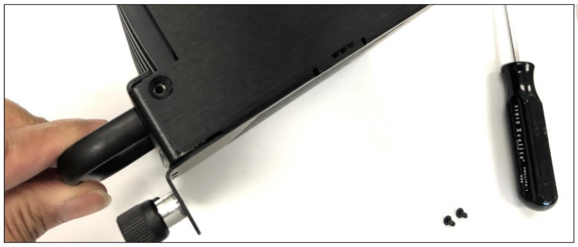


P a a ba a a b a c c c U

b a a a a a

5.3 Reinstall the Drive pack

R a a a c c



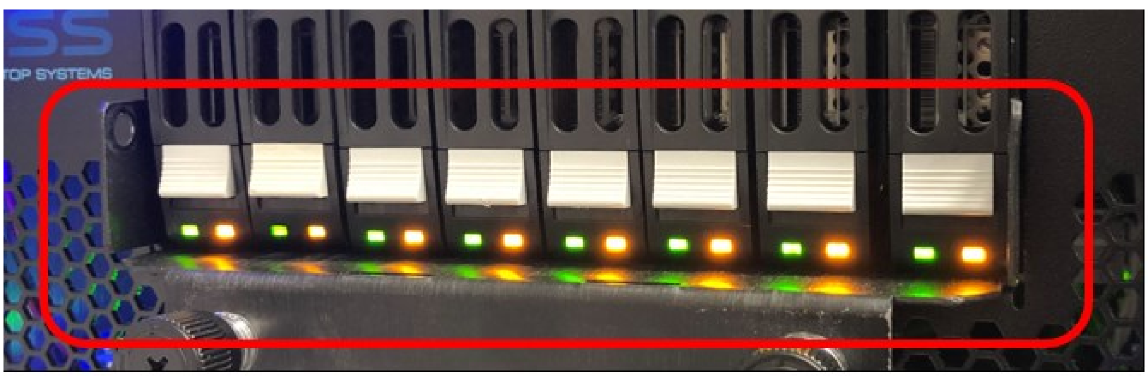
P D ac c T b b c c c c

6 Front Panel Drive LEDs

T ca LED c UP a c a a

- I IPMI a LED a a b

- I SDS IPMI LED a a b a a b b
- I IPMI a AMBER LED a a a ca a IPMI c c IPMI a c C ac OSS T c ca S a a c a bac O S S c



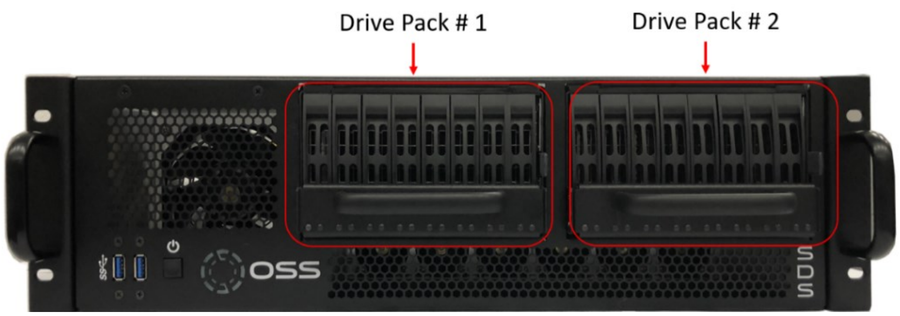
6.1 LED Color Definition

- S c ca a a a ca
- S A b N ac
- B A b T ac

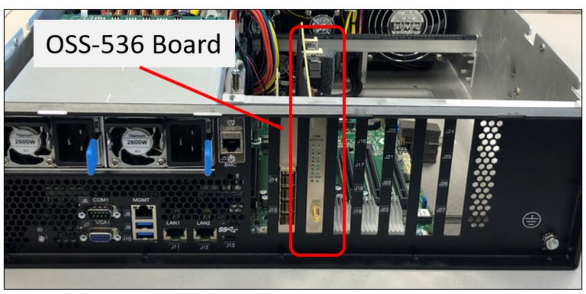
7 Drive Slot & Bracket LINK Status LEDs

I SDS a D Pac a

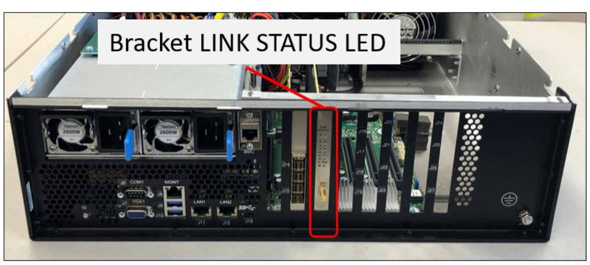
- A ac a a c a a ca acc a a
- Eac ac a
- A a a b a a ca a
- T a B ac LINK STATUS LED OSS b a b



P b OSS b a SDS a a c



P b ca B ac LINK STATUS LED

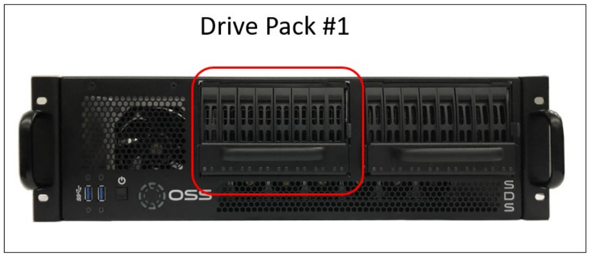


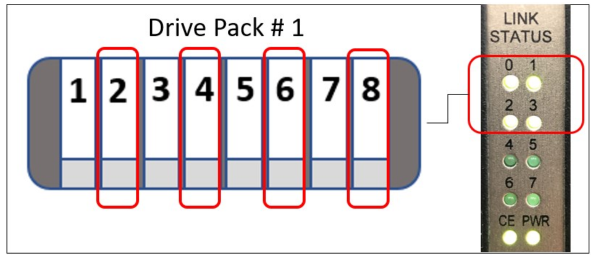
T LINK STATUS LED c ca b a acc b bac ca b ac

T LED a a cc a c

- S a b
- O b D Pac a a a c c b ac LINK STATUS LED

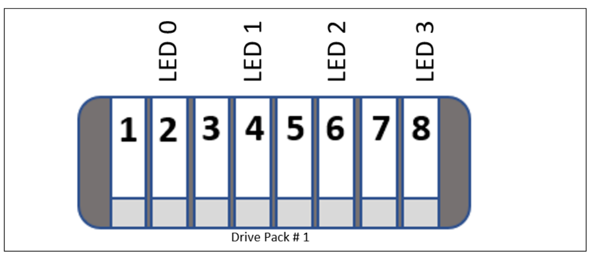
A b **Drive Pack #1** a cc a c LINK STATUS LED a a a a

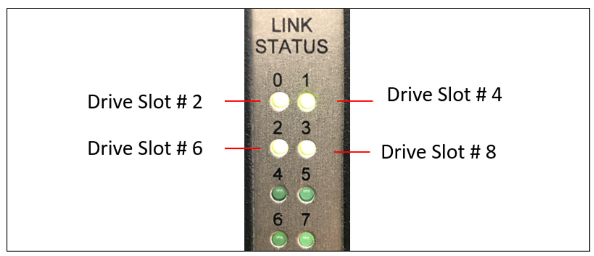




Drive Pack #1:

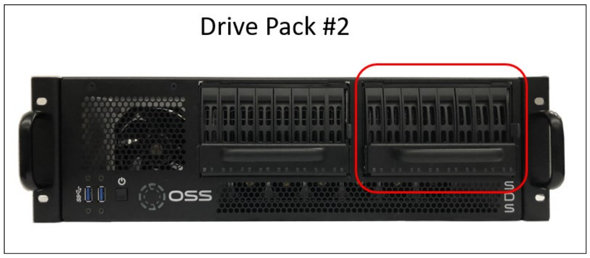
- D LINK STATUS LED
- D LINK STATUS LED
- D LINK STATUS LED
- D LINK STATUS LED

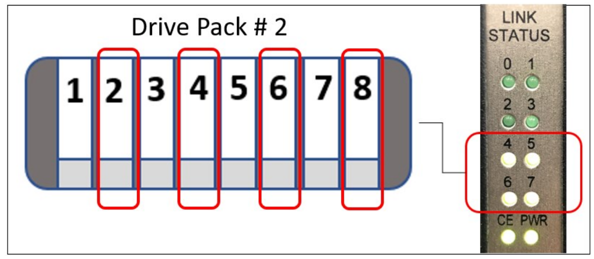




NOTES S a a a c c LINK STATUS LED N LINK STATUS LED a c a a c LED ca

A b , **Drive Pack #2** a cc a c LINK STATUS LED a a a a

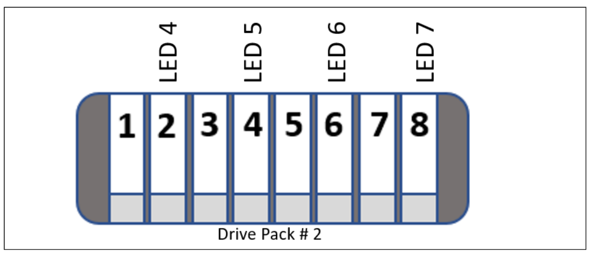


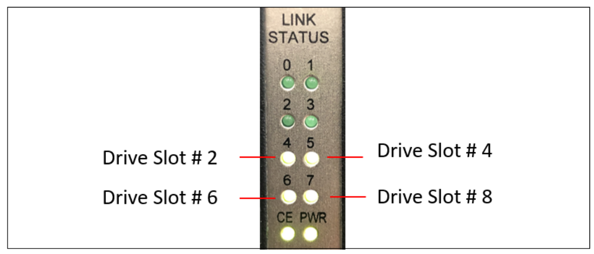


Drive Pack #2:

- D LINK STATUS LED
- D LINK STATUS LED
- D LINK STATUS LED
- D LINK STATUS LED

P b a D Pac a c LINK STATUS LED



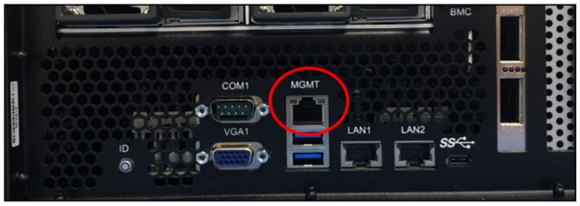


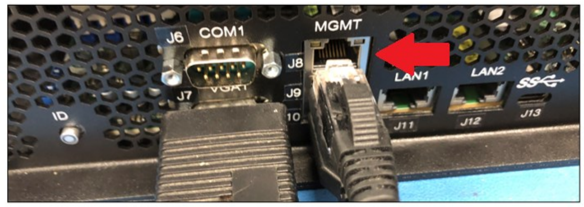
NOTES a a a c c LINK STATUS LED N LINK STATUS LED a c a a c LED ca

8 How to Access Motherboard BMC Web Interface

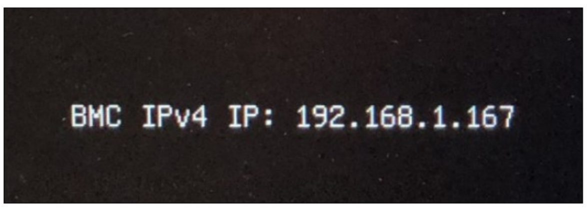
T Acc BMC b ac b a c b

P a E cab MGMT b

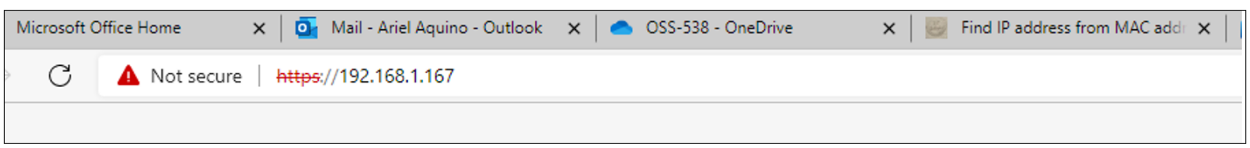




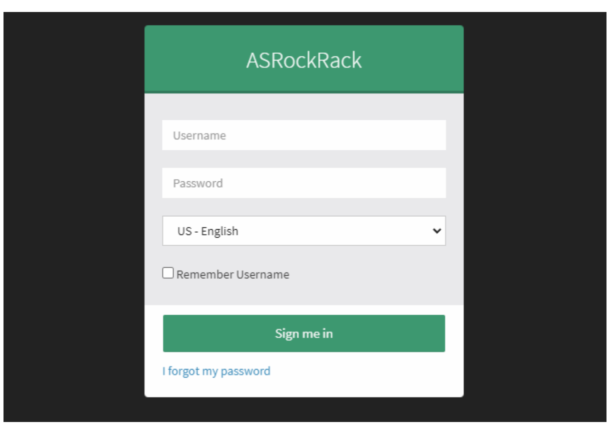
P SDS b BMC IP a c b a a



S a b a BMC IP a c b

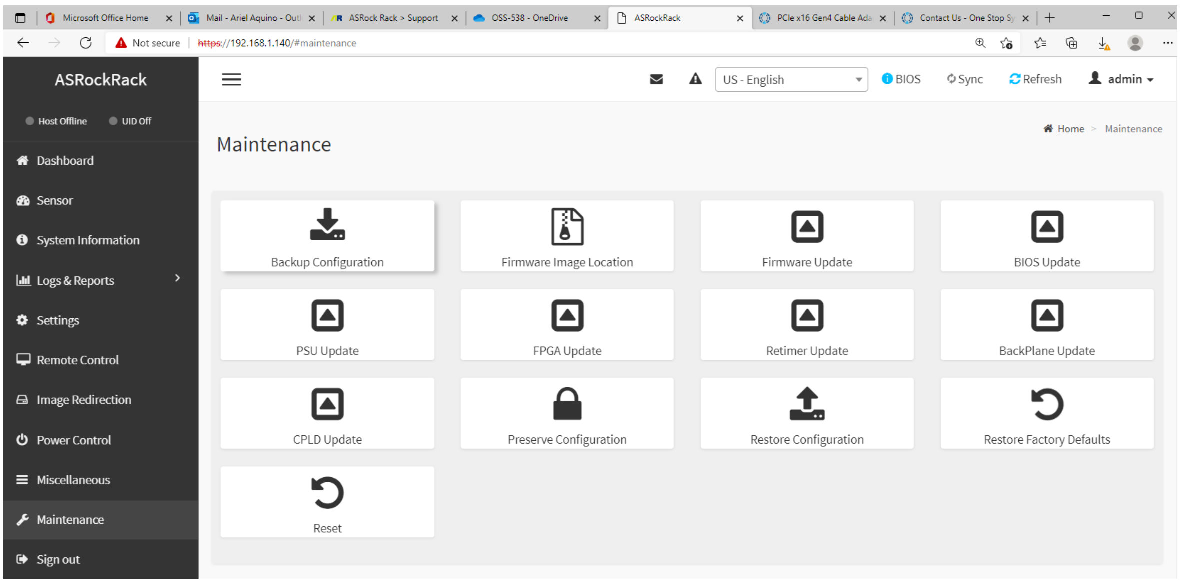


L a A a A



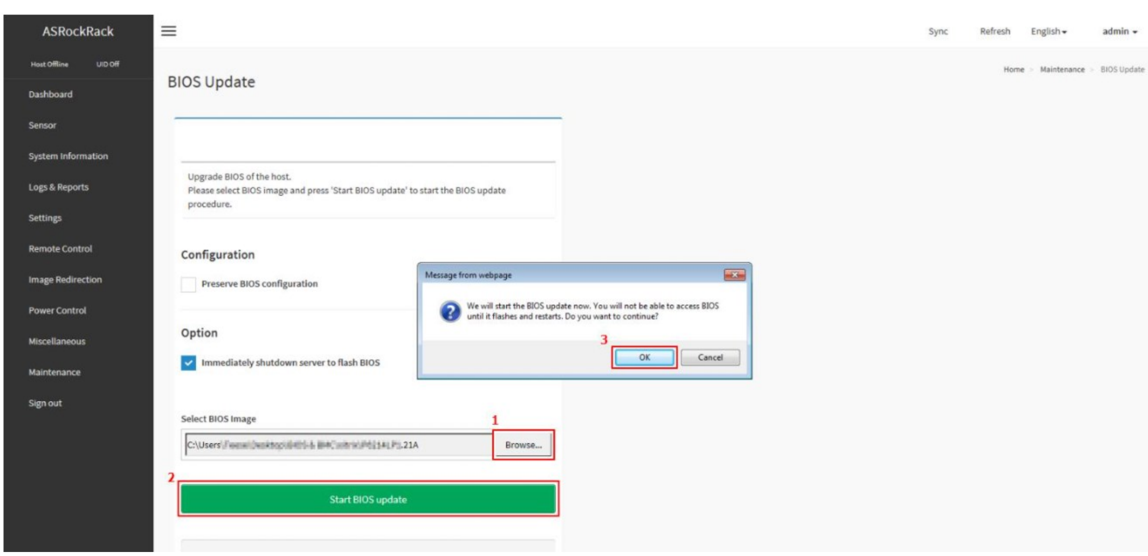
9 How to Update BIOS via IPMI Web User Interface

- L BMC
- C c Ma a c
- C c BIOS U a

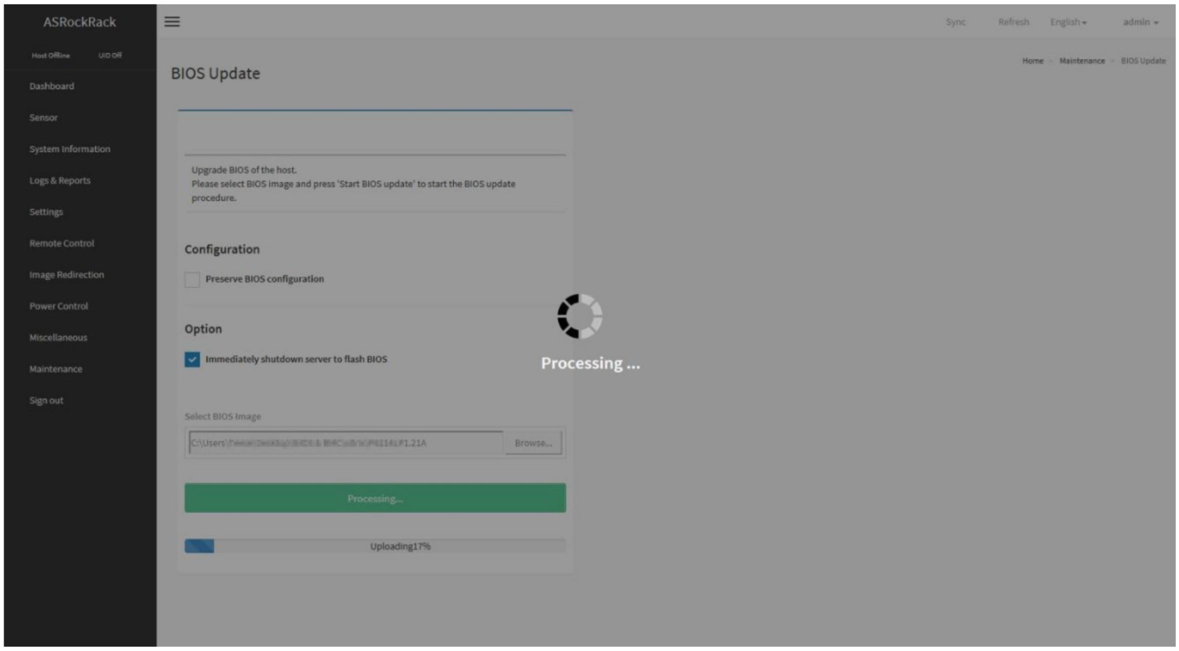


T a a c a a

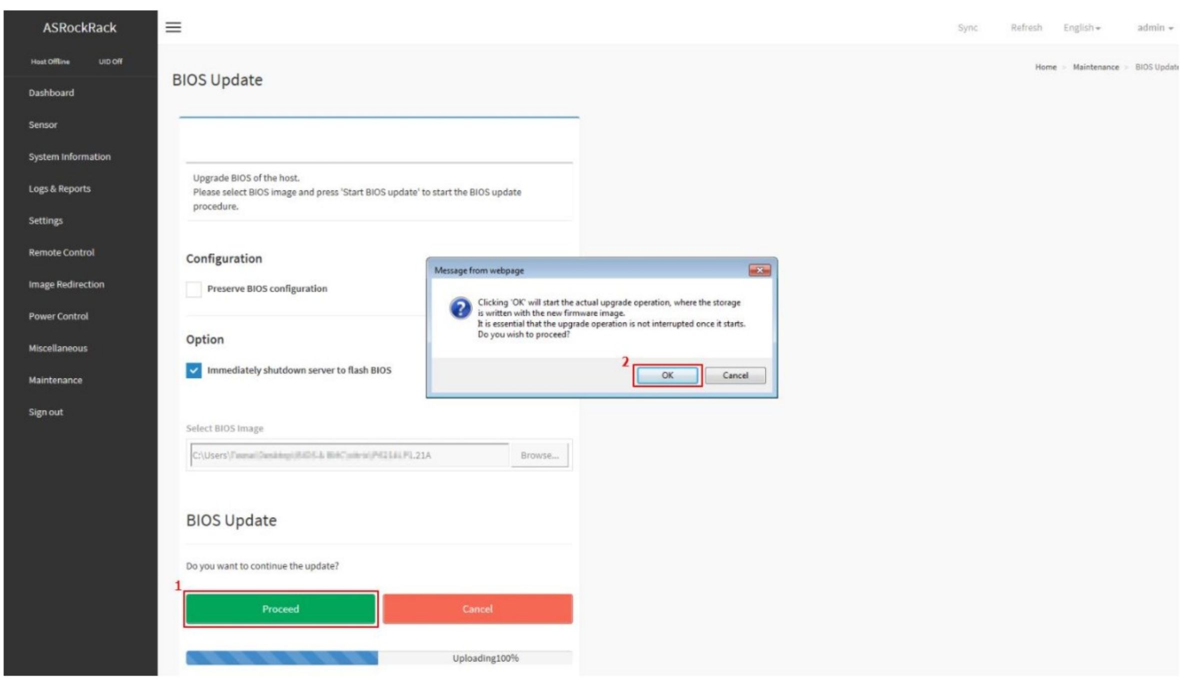
- C c B c BIOS FW
- T c c S a BIOS a a a c C c OK c c c



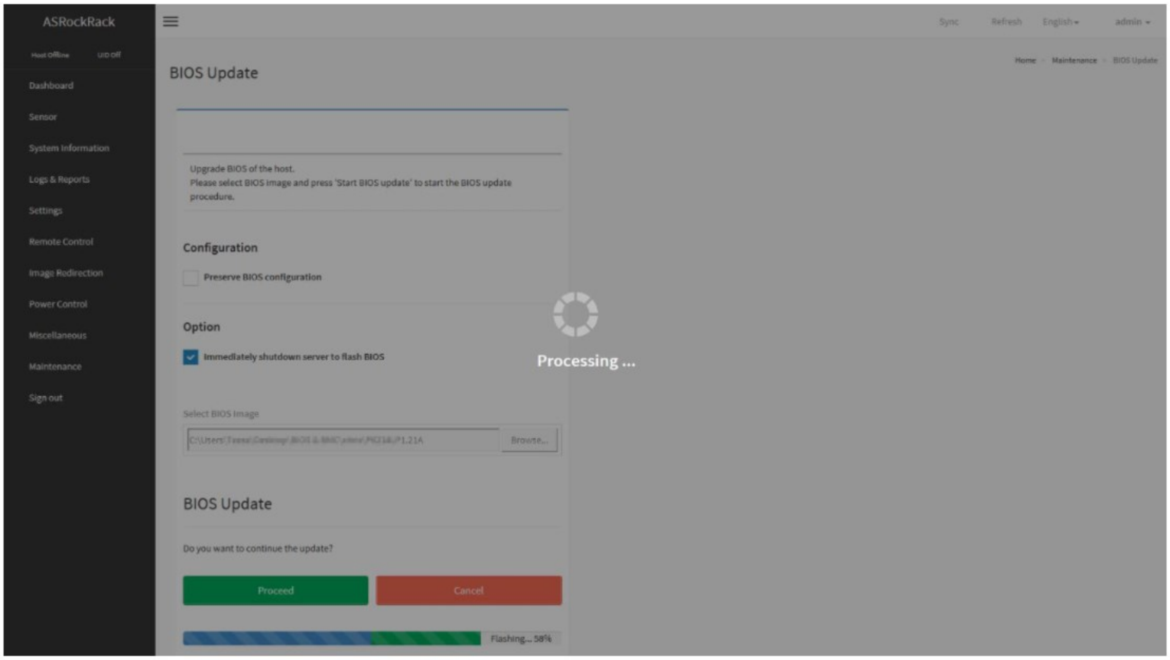
FW ca c a a a c



C c P c c BIOS FW a c T c c OK a ac a BIOS FW a a



FW a c a a a c

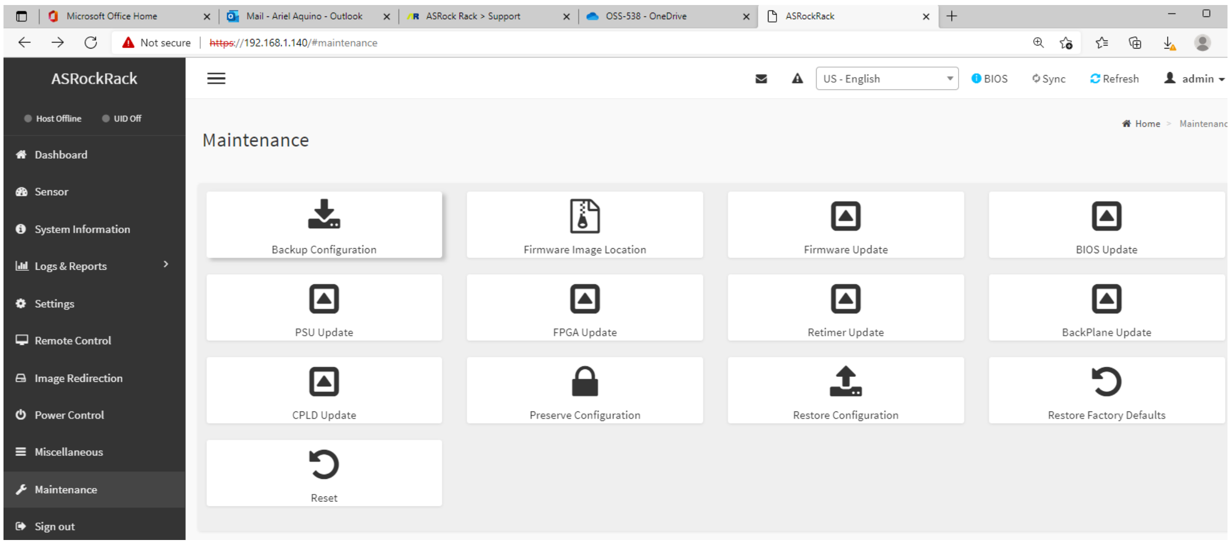


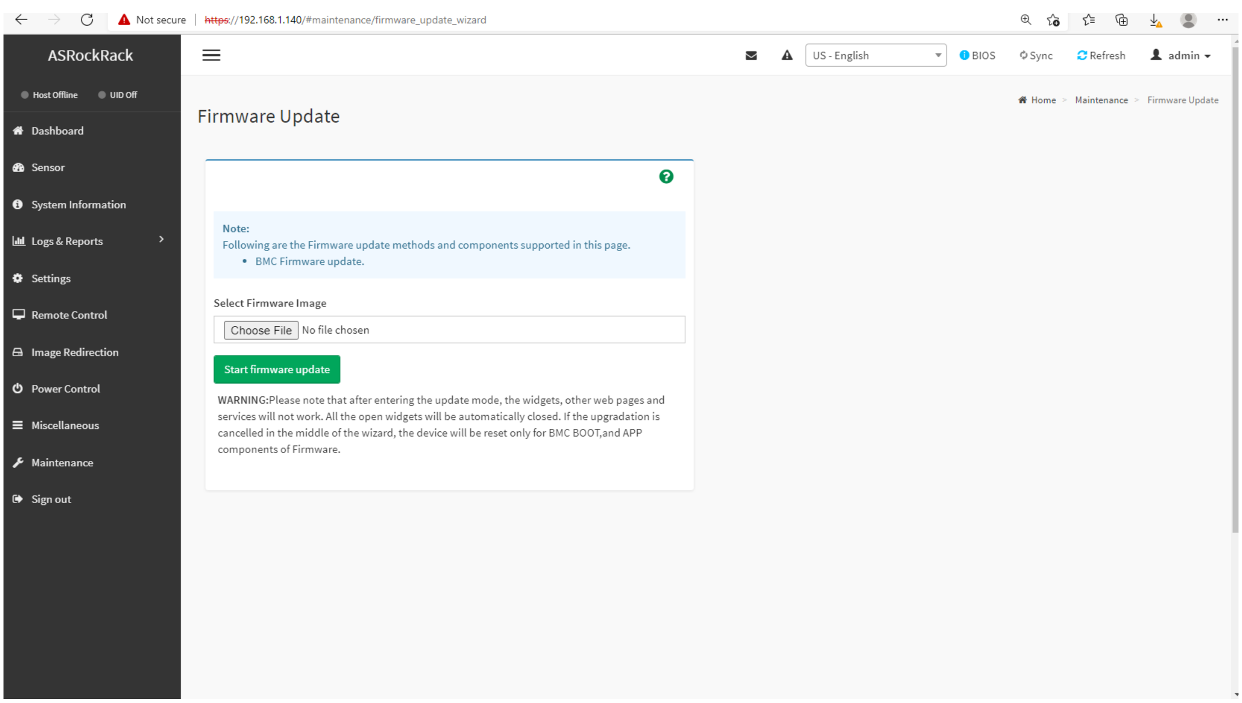
BIOS FW a c C c OK a b a

NOTE C a b c a BIOS FW a c

10 How to Update BMC Firmware via Web User Interface

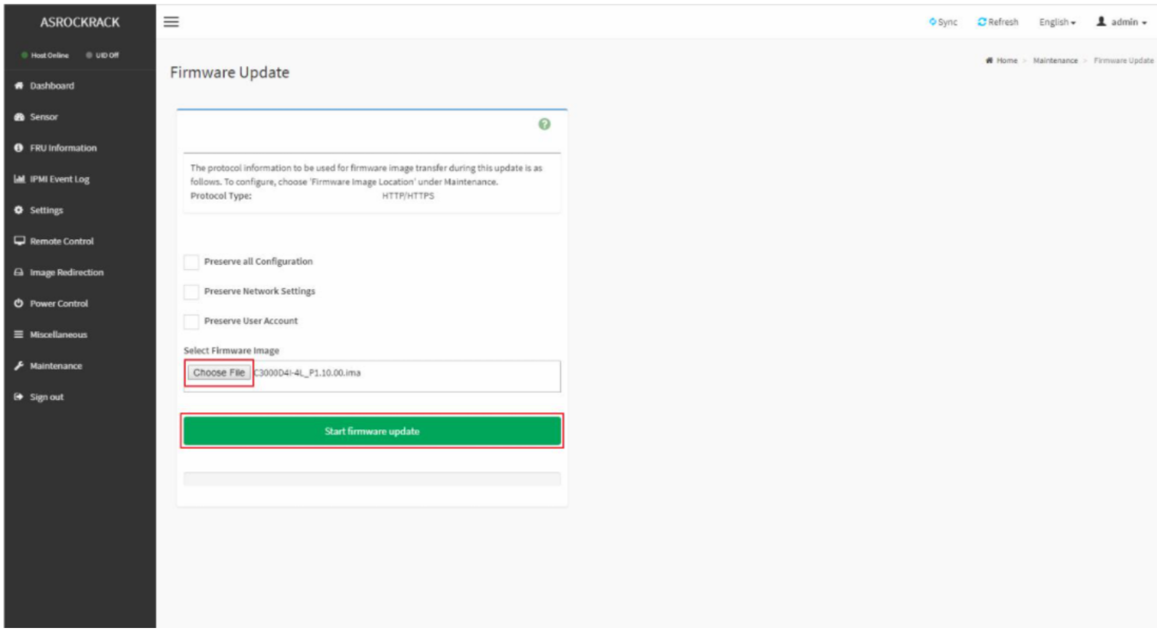
- C c Ma a c
- C c F a a



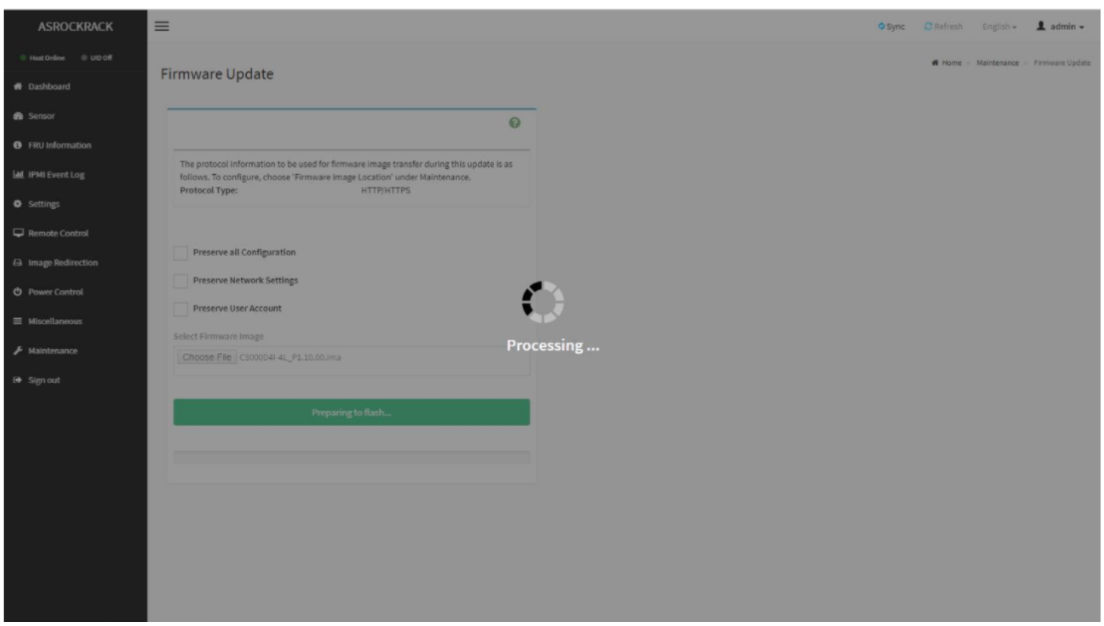


This wizard will takes you through the process of firmware upgrades.

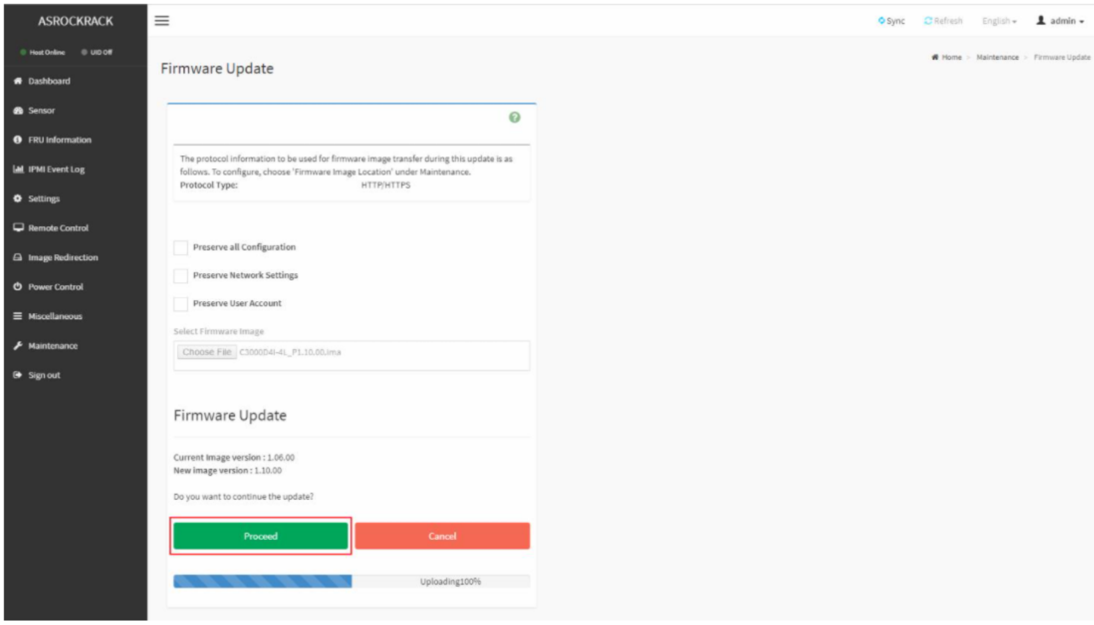
Click the “Choose File” to select the BMC FW file. Then click “Start firmware update” for the upgrade process.



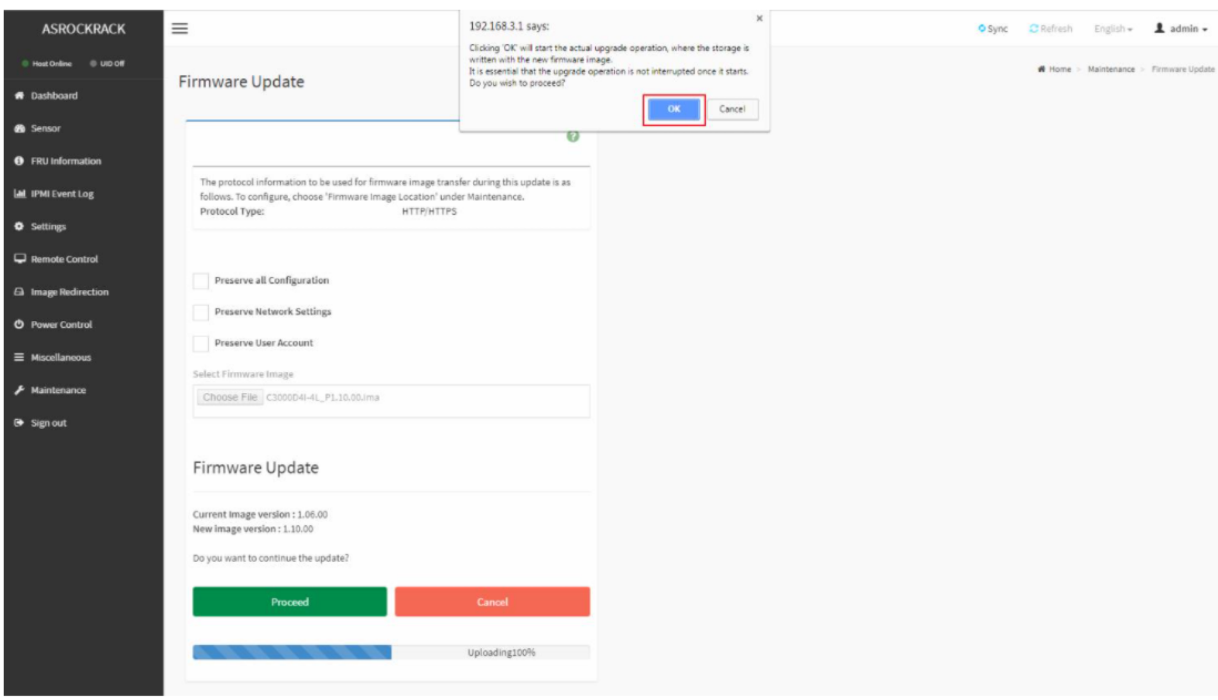
FW verification processing, please wait a few second..



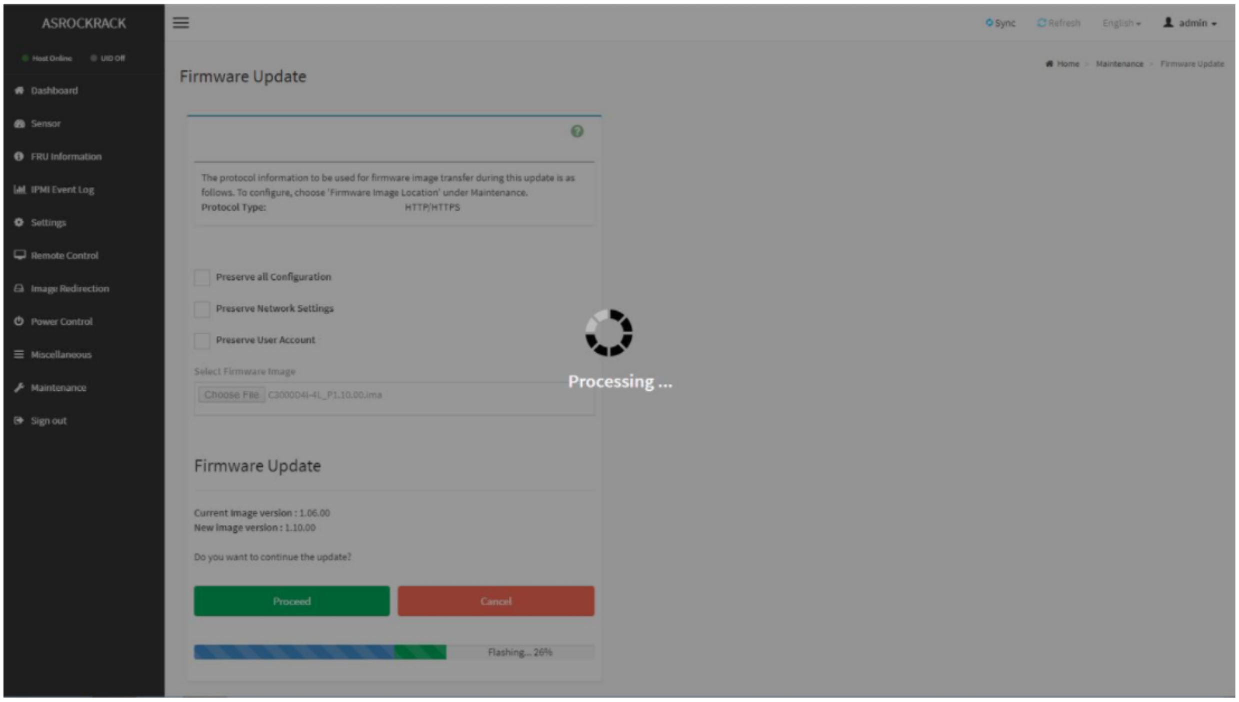
Click “Proceed” to continue the BMC FW upgrade process.



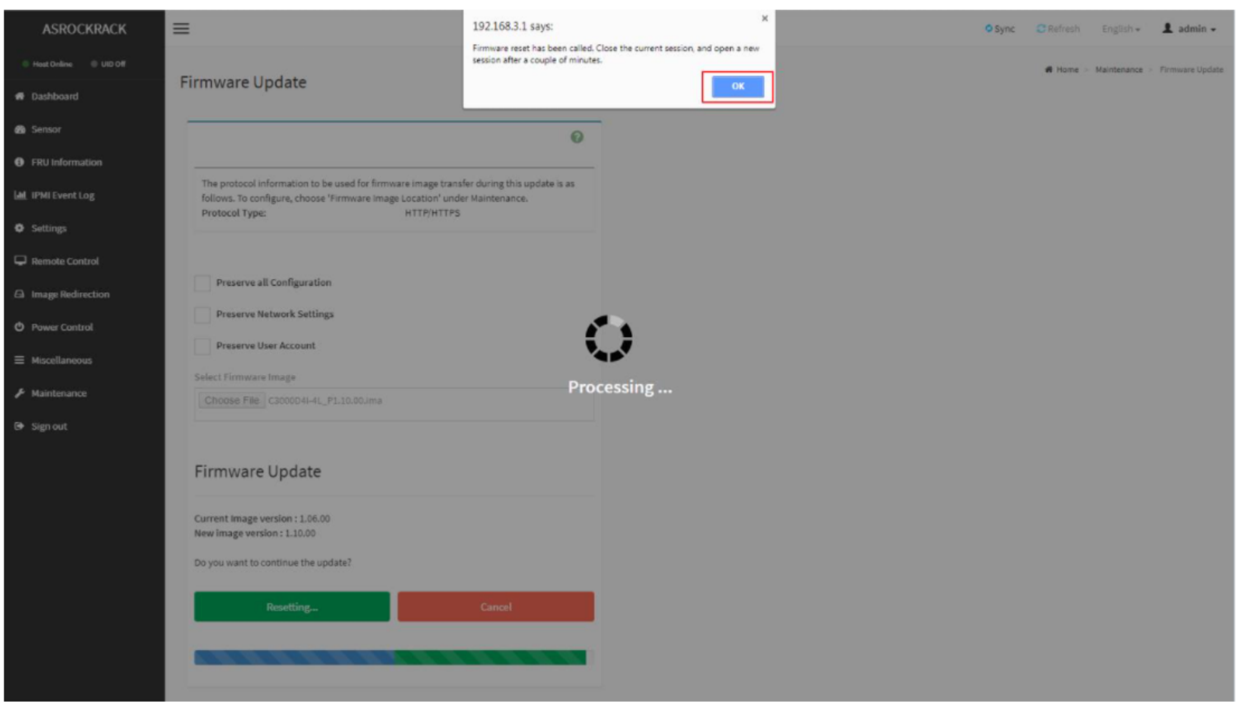
Click “OK” to start the actual BMC FW upgrade operation.



FW updrage is processing, please wait a few second..



BMC FW upgrade process finished. Click “OK” and reboot the system.



Remark: Clear the browser cookies after the BMC FW upgrade process finished.

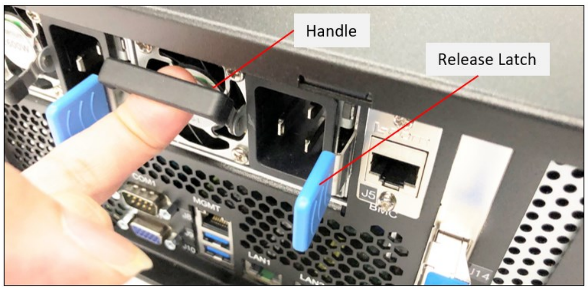
11 How to Remove Power Supply Module

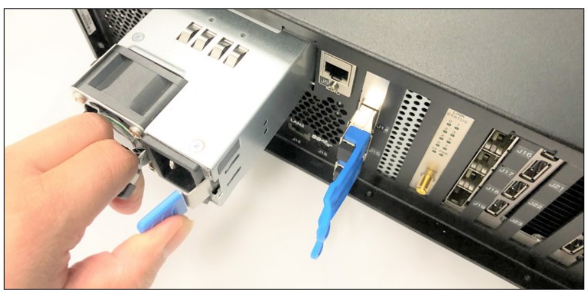
D c c c

G a a

P b a a c a

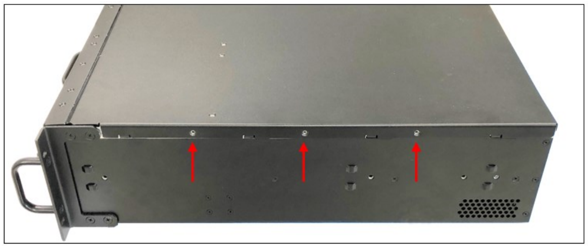
P ba

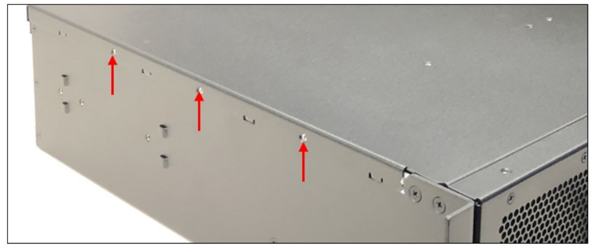




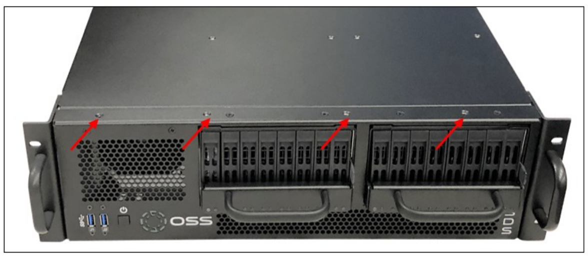
12 How to Remove Top Cover

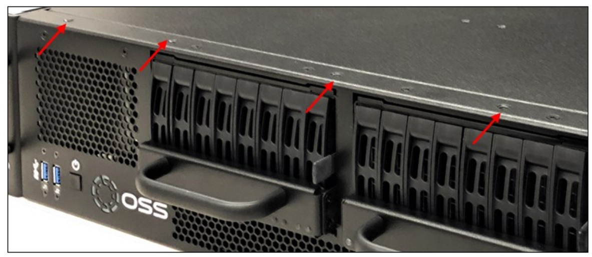
R c ca ac a b



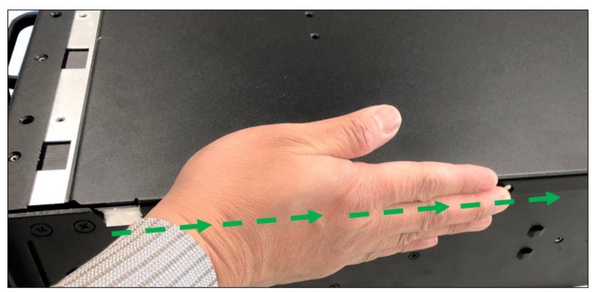


R c ca b





A a c a a ac ac a b a a



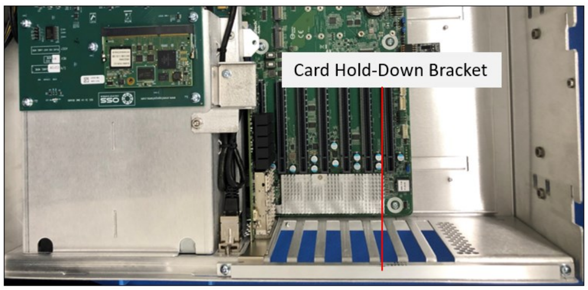
G bac a

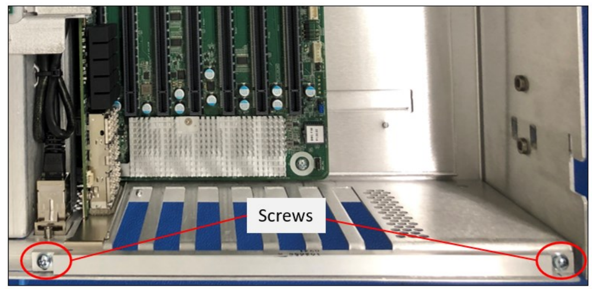
13 How to Add / Remove PCIe Card

Y ca b ac a a PCI ca

- P ON D c c c
- R c a ca b ac
- I a PC ca ca
- P ac ca b ac ca b ac a c c

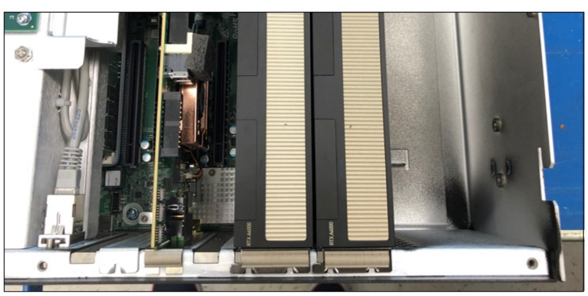
R c

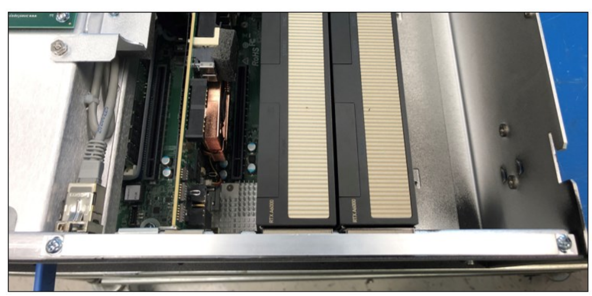




D ac ca b ac

I a PCI ca a c



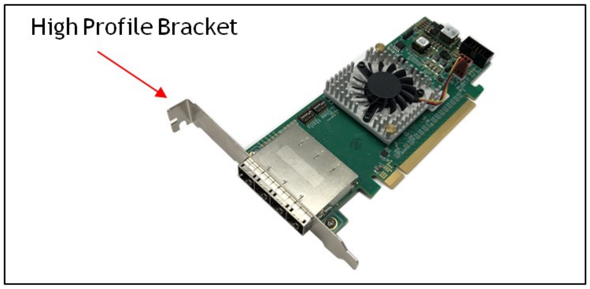


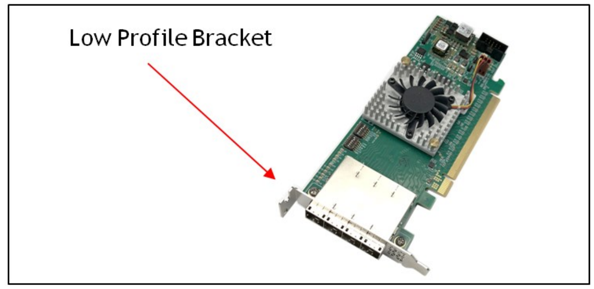
14 OSS Host Card Installation (Gen 4)

P b a a PCI ca

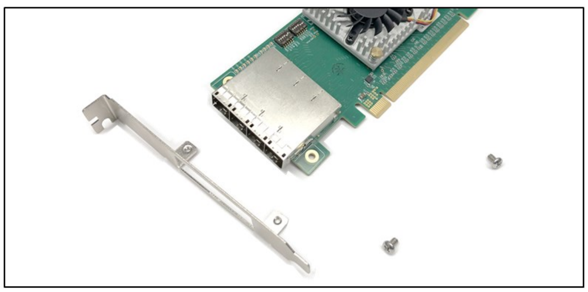
- R c VSB V S a b a a ab c a

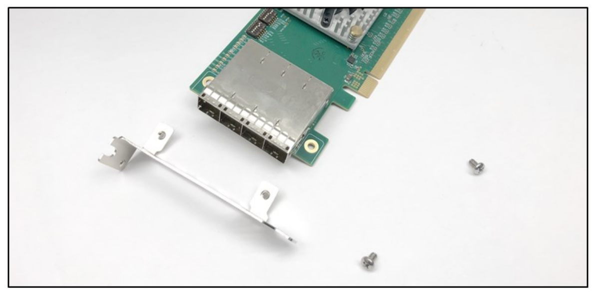
T SDS PCI ca P b c b a a b ac



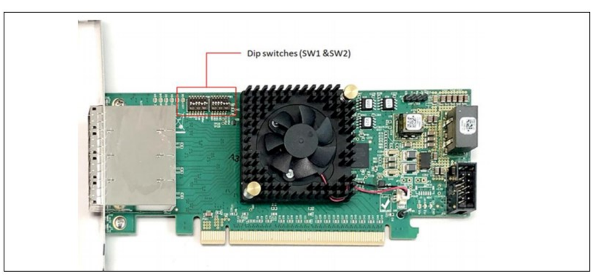


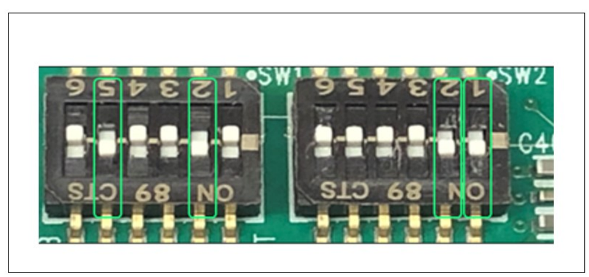
F ca a ca c a b ac b ac Y ca a b ac
b c ac Sa S D ac a a b ac ca a ac b ac a c





O c c c b ac c ca c a S b





I ca a aca PCI b ca a T c ca
ca b ac

15 Attach OSS Expansion Unit

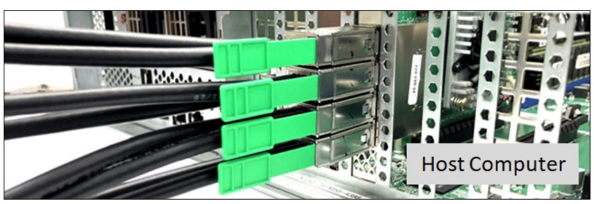
T c c c a OSS E a SDS Ma a a
Ta a H a a ca OSS OSS PCIE HIB X

15.1 Connect LINK Cables (Gen 4)

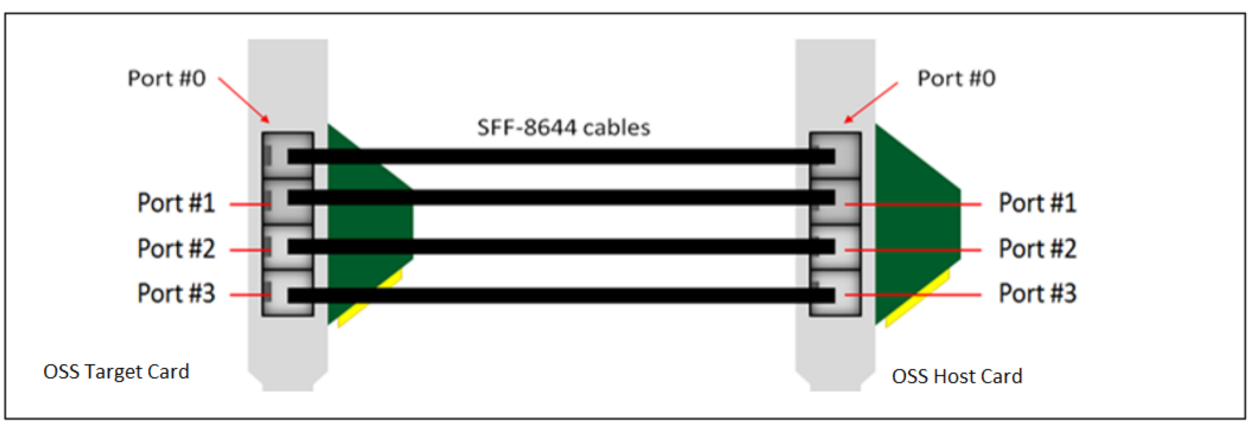
I a a c c a G a

P cab SFF b a a ca C c SFF cab a ca
a a

C c cab ca SDS a a c



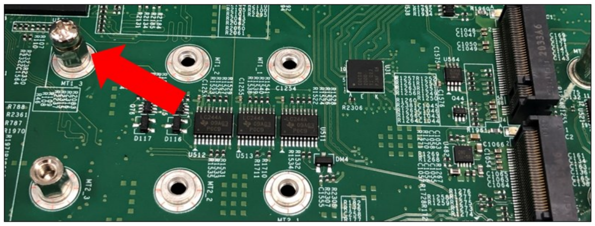
Cab a a b c c a SFF cab b H a Ta ca



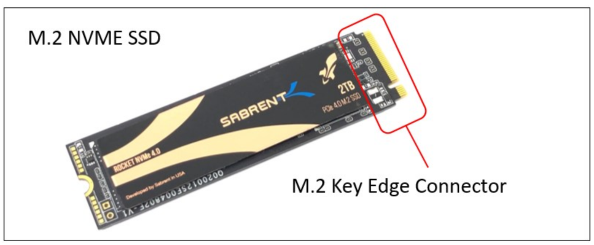
16 M.2 NVME Installation

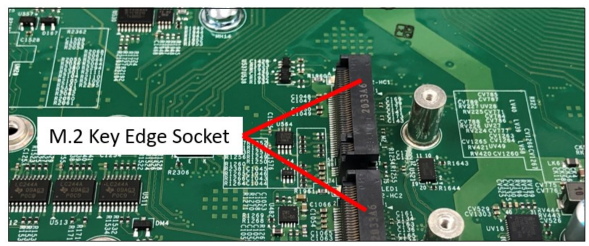
F b a PCI M a SDS

- R c ca ac M



- A M K c c M c b a





- S a a c a T SSD a a a a a a a S b

- S c M a c
- P a M a ac c a a S T c SDD ac S b

17 IPMI

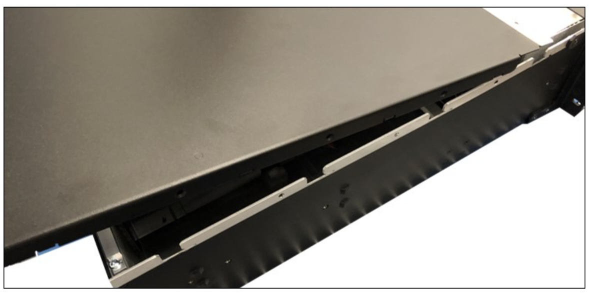
IPMI ba ca E

IPMI a a a SDS a a a W b ac

- Fa a a
- D Bac a a
- P a a a

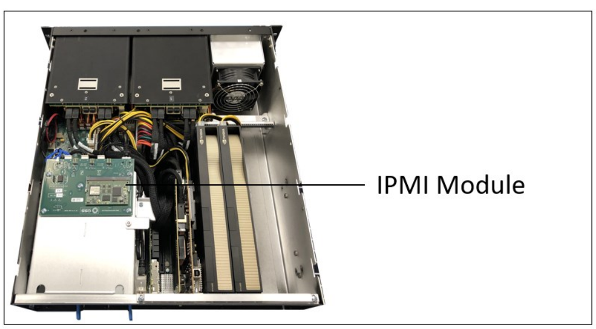
17.1 Check IPMI Hardware

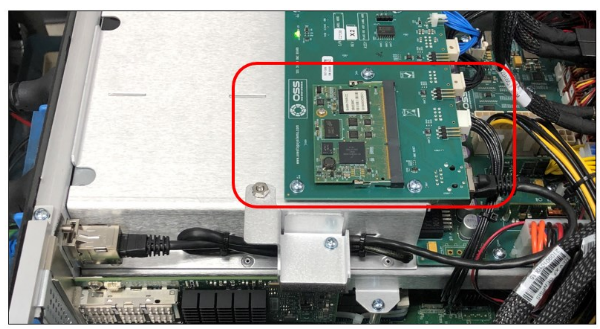
C c IPMI R c a a c



17.2 IPMI Module Location

S b ca IPMI

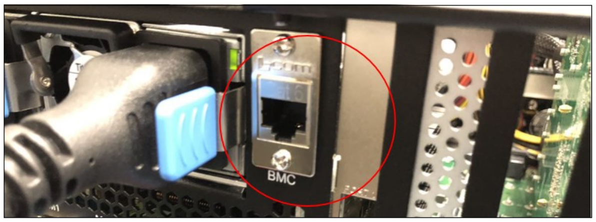




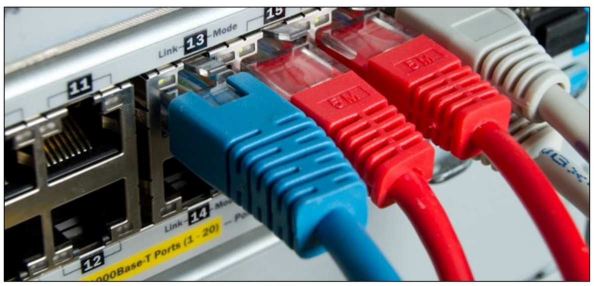
18 IPMI Set Up

18.1 Connect Ethernet Cable

C c E cab BMC ca bac



P E cab DHCP

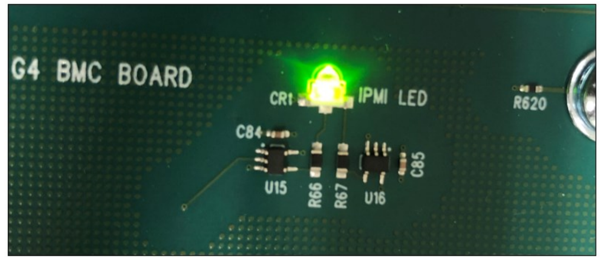


18.2 Connect Power Cables

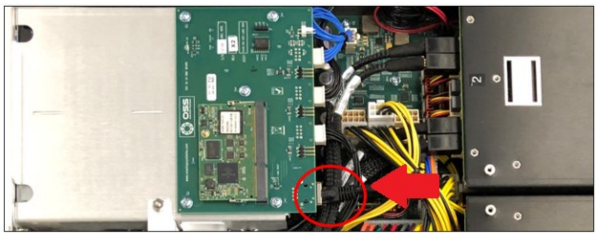
C c c ca bac

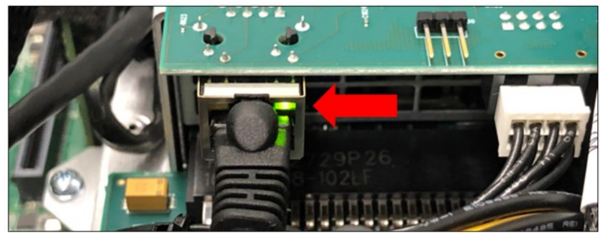
P b ON SDS

U a b IPMI LED ca b a b I a
b a W a IPMI a



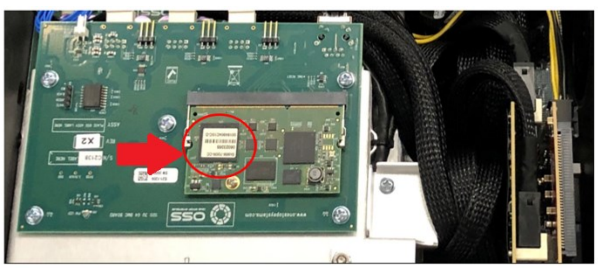
V a E cab c c RJ b a a LED b b



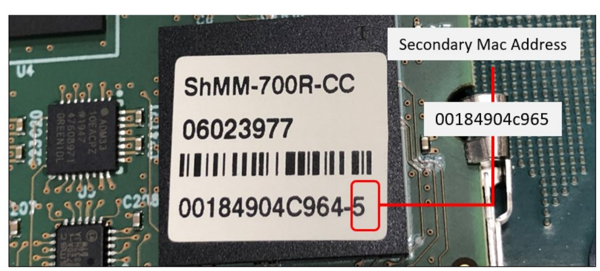


18.3 Locate Mac Address

T acc b ac IPMI IP a C c IPMI ab c a
Mac a T b ca IPMI ab



T OSS IPMI Mac a c a c a ac b U b ab
a Mac a



18.4 Discovering the Mac Address / IP Address

U Mac a IPMI IP a T IPMI c a
DHCP

- W c c c a a a IP DHCP
  c IP a a

There are multiple ways to do this as follows:

L DHCP a a a a c MAC a c

A IP ca c ca ca a MAC a

S C a W T a

18.4.1 Using The DHCP To Find IP Addresses

I ca a acc DHCP S ca a a IP MAC a ac a a a a
c a LAN a

- L DHCP a b a a
- I a a a IP a DHCP S ca a c c a W a
  c c a acOS L
- T IP a b a c a
- G DHCP DHCP C L a b ab MAC a IP a a
  a
- Ma c IP MAC a

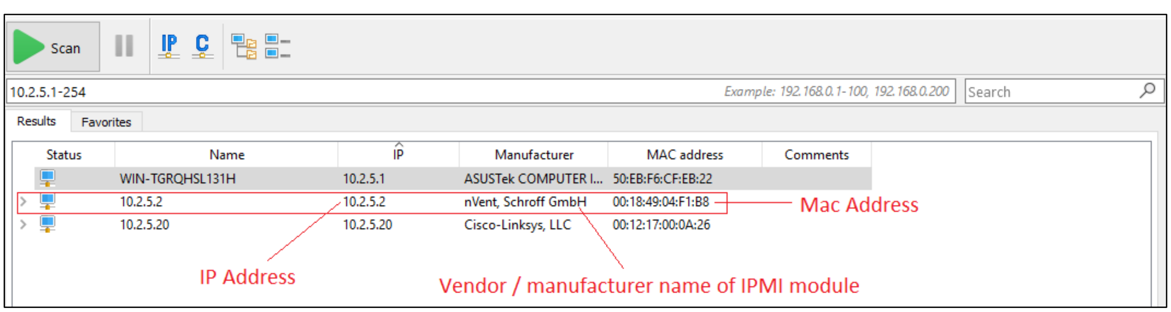
Na a Da a a a DHCP L a C a GUI a ca c c c

18.4.2 Using A Network or IP scanner

U a a c a a IP ca ca a a IP a Mac a P b a
IP a Mac a a IP Sca

- Mac A F b a IP a

NOTE T **"nVent,Schroff GmbH** a ac IPMI



18.4.3 Using Command Prompt or Windows Terminal

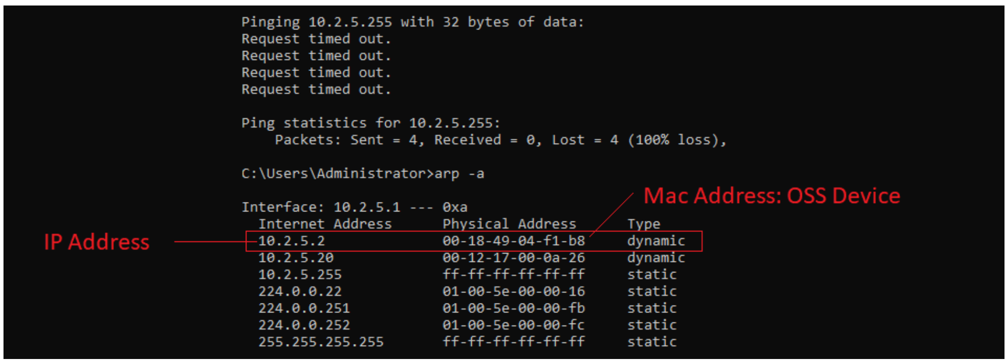
Windows:

U C a P a a c a

F a IP a a a b a ca a b a a b

- O a c a a
- Y a a a a
- T a a

Y b ab MAC c IP a I a MAC A IPMI E F B Ma c a IP a a ab a b



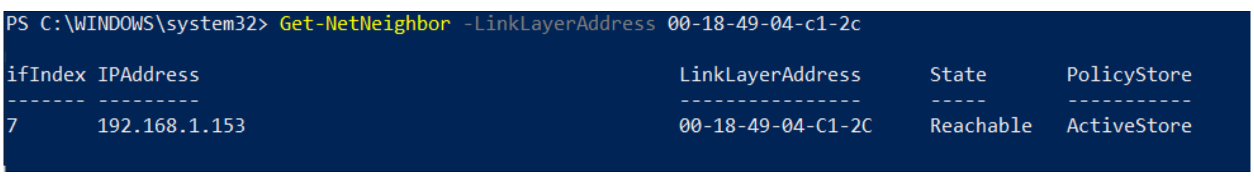

```
Pinging 10.2.5.255 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 10.2.5.255:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\Users\Administrator>arp -a

Interface: 10.2.5.1 --- 0xa
  Internet Address      Physical Address      Type
  10.2.5.2              00-18-49-04-f1-b8     dynamic
  10.2.5.20             00-12-17-00-0a-26     dynamic
  10.2.5.255            ff-ff-ff-ff-ff-ff     static
  224.0.0.22            01-00-5e-00-00-16     static
  224.0.0.251           01-00-5e-00-00-fb     static
  224.0.0.252           01-00-5e-00-00-fc     static
  255.255.255.255       ff-ff-ff-ff-ff-ff     static
```

U W P S G N N b c a

S a W P S a a a a

G N N b L La A c c R ac b Mac a S a E a c

- B a a W P S c IP a Mac a
- T a a P S c a a ca T a c a a a ab a ca



```
PS C:\WINDOWS\system32> Get-NetNeighbor -LinkLayerAddress 00-18-49-04-c1-2c

ifIndex IPAddress                                          LinkLayerAddress      State       PolicyStore
------- ---------                                          ----------------      -----       -----------
7       192.168.1.153                                      00-18-49-04-C1-2C     Reachable   ActiveStore
```

Linux:

P b a a a L c a IP a a Mac a

```
root@oss:/home/oss# arp -a
? (10.2.5.1) at 00:18:49:04:f1:b8 [ether] on enp4s0
? (10.2.5.20) at 00:12:17:00:0a:26 [ether] on enp4s0
root@oss:/home/oss# ip neigh
10.2.5.1 dev enp4s0 lladdr 00:18:49:04:f1:b8 REACHABLE
10.2.5.20 dev enp4s0 lladdr 00:12:17:00:0a:26 DELAY
root@oss:/home/oss# arp -n
Address                  HWtype  HWaddress           Flags Mask            Iface
10.2.5.1                 ether   00:18:49:04:f1:b8   C                     enp4s0
10.2.5.20                ether   00:12:17:00:0a:26   C                     enp4s0
```

```
root@oss:/home/oss# arp-scan 10.2.5.0/20
Interface: enp4s0, type: EN10MB, MAC: 50:eb:f6:cf:eb:22, IPv4: 10.2.5.1
WARNING: host part of 10.2.5.0/20 is non-zero
Starting arp-scan 1.9.7 with 4096 hosts (https://github.com/royhills/arp-scan)
10.2.5.2        00:18:49:04:f1:b8       nVent, Schroff GmbH
10.2.5.20       00:12:17:00:0a:26       Cisco-Linksys, LLC

2 packets received by filter, 0 packets dropped by kernel
Ending arp-scan 1.9.7: 4096 hosts scanned in 17.249 seconds (237.46 hosts/sec). 2 responde
root@oss:/home/oss# arp -a | grep 00:18:49:04:f1:b8
? (10.2.5.2) at 00:18:49:04:f1:b8 [ether] on enp4s0
root@oss:/home/oss#
```

18.5 Start Internet Browser

O c IP a a c b a IP a B W b ac IPMI a a a a a a

- Fa a a
- D Bac a a
- P a a a

SDS, dual drive pack, 2 power supplies

BMC Temperature	24C

Fan 1 Status	OK	Fan 4 Status	OK	Fan 8 Status	OK	Fan 11 Status	OK
Fan 1 Speed	14915RPM	Fan 4 Speed	14915RPM	Fan 8 Speed	11875RPM	Fan 11 Speed	11590RPM
Fan 2 Status	OK	Fan 5 Status	OK	Fan 9 Status	OK	Fan 12 Status	OK
Fan 2 Speed	14915RPM	Fan 5 Speed	14915RPM	Fan 9 Speed	11685RPM	Fan 12 Speed	11780RPM
Fan 3 Status	OK	Fan 7 Status	OK	Fan 10 Status	OK		
Fan 3 Speed	4905RPM	Fan 7 Speed	11780RPM	Fan 10 Speed	11685RPM		

PSU Backplane Temperature	25C
3V3 Switcher Temperature	32C
3V3 Switcher Output Voltage	3.3V
3V3 Switcher Output Current	0.1A
Aux 3V3 Voltage	3.42V
Main 3V3 Voltage	3.38V
Standby 5V Voltage	5.2V
Main 5V Voltage	5.13V
Main 12V Voltage	12.48V

PSU 1 Input Voltage	116V	PSU 2 Input Voltage	116V
PSU 1 Output Voltage	12.2V	PSU 2 Output Voltage	12.2V
PSU 1 Input Current	1A	PSU 2 Input Current	1A
PSU 1 Output Current	9A	PSU 2 Output Current	5A
PSU 1 Input Power	120W	PSU 2 Input Power	80W
PSU 1 Output Power	100W	PSU 2 Output Power	60W
PSU 1 Temperature 1	28C	PSU 2 Temperature 1	27C
PSU 1 Temperature 2	38C	PSU 2 Temperature 2	39C
PSU 1 Temperature 3	46C	PSU 2 Temperature 3	43C
PSU 1 Fan Speed	6300RPM	PSU 2 Fan Speed	6060RPM

192.168.1.125/

192.168.1.125

Standby 5V Voltage	5.2V
Main 5V Voltage	5.13V
Main 12V Voltage	12.48V

PSU 1 Input Voltage	116V	PSU 2 Input Voltage	116V
PSU 1 Output Voltage	12.2V	PSU 2 Output Voltage	12.2V
PSU 1 Input Current	1A	PSU 2 Input Current	1A
PSU 1 Output Current	8A	PSU 2 Output Current	5A
PSU 1 Input Power	120W	PSU 2 Input Power	100W
PSU 1 Output Power	100W	PSU 2 Output Power	60W
PSU 1 Temperature 1	28C	PSU 2 Temperature 1	27C
PSU 1 Temperature 2	38C	PSU 2 Temperature 2	39C
PSU 1 Temperature 3	46C	PSU 2 Temperature 3	43C
PSU 1 Fan Speed	6300RPM	PSU 2 Fan Speed	6060RPM

Drive Pack Interface 1 Temperature	30C	Drive Pack Interface 2 Temperature	31C
5V Regulator 1 Output Voltage	5V	5V Regulator 1 Output Voltage	5V
5V Regulator 1 Output Current	0A	5V Regulator 1 Output Current	0A
5V Regulator 1 Temperature 2	38C	5V Regulator 1 Temperature 2	38C
5V Regulator 2 Output Voltage	5V	5V Regulator 2 Output Voltage	5V
5V Regulator 2 Output Current	0A	5V Regulator 2 Output Current	0A
5V Regulator 2 Temperature 2	37C	5V Regulator 2 Temperature 2	38C

Drive Pack 1 Temperature	23C	Drive Pack 2 Temperature	25C
SSD 1 Type	No Drive	SSD 1 Type	NVMe
SSD 2 Type	No Drive	SSD 2 Type	No Drive
SSD 3 Type	No Drive	SSD 3 Type	NVMe
SSD 4 Type	No Drive	SSD 4 Type	No Drive
SSD 5 Type	NVMe	SSD 5 Type	NVMe
SSD 6 Type	No Drive	SSD 6 Type	No Drive
SSD 7 Type	No Drive	SSD 7 Type	NVMe
SSD 8 Type	No Drive	SSD 8 Type	No Drive

BMC Temperature	23C

Fan 1 Status	OK
Fan 1 Speed	22040RPM
Fan 2 Status	OK
Fan 2 Speed	21755RPM
Fan 3 Status	OK
Fan 3 Speed	8235RPM

Large Front Fan

Fan 4 Status	OK
Fan 4 Speed	21850RPM
Fan 5 Status	OK
Fan 5 Speed	21850RPM
Fan 7 Status	OK
Fan 7 Speed	21660RPM

Fan 8 Status	OK
Fan 8 Speed	22040RPM
Fan 9 Status	OK
Fan 9 Speed	21660RPM
Fan 10 Status	OK
Fan 10 Speed	22040RPM

Fan 11 Status	OK
Fan 11 Speed	21850RPM
Fan 12 Status	OK
Fan 12 Speed	21850RPM

19 How To Login to IPMI Console

T IPMI c ca SSH a a c a c a c a

C a a G IPMI C a L a
S IP STATIC DHCP G IPMI C a L a

19.1 Using SSH

19.1.1 On windows:

- P W S a b a b
- T C a P
- R c c C a P a c c R a a a
- C c Y W U Acc C a
- T C a P a a

19.1.2 On Linux:

- P C A T a a c a T a

O c a T a W C a P a

- T XXX XXX X XXX P ENTER
  - NOTE R ac XXX XXX X XXX a a OSS S a E a
- T a ENTER a a
- O c a ca c a a a IP a a c DHCP

20 IPMI Command Lines

c c c a a a a c

- I a c b c a b a a
- I ca b c a c c c c c a

W IPMI c a a a a a a a
a a a c

- A a c c a a bac c a a
  c
- T c a a a a a a T b c
  b
- T c a T a b ac a a

T c a a c c a c

Note: This can only control the fan speed on the large front fan.

```
# cd
# pwd
/home/root
# ./ipmi_ctrl
Usage: ./ipmi_ctrl <pwm> [<lowtemp> <hightemp>]
  <pwm>     : 15-100, 15=0%, 100=100%

  only when <pwm> is 101:
  <lowtemp> : temperature at or below which the power determines the duty cycle
  <hightemp>: temperature at or above which the upper limit duty cycle (100) is enforced
```

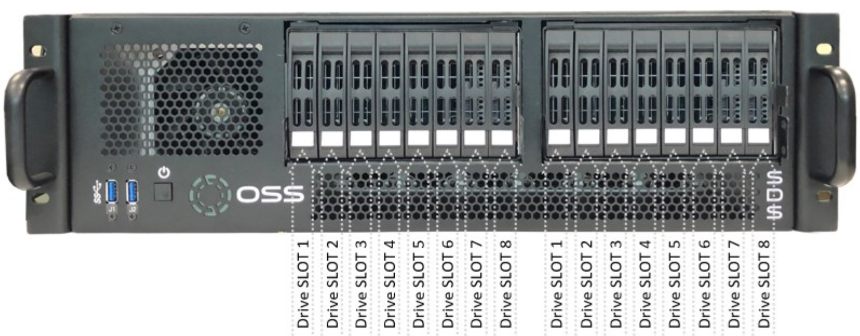
T c a IP a c a

```
/home/root
# ./setip.sh

Use static IP address for eth0 (rear)? [y/n]: y

Enter IP address for eth0 (e.g.: 192.168.0.23): 192.168.1.24

IP address for eth0: 192.168.1.24
Is this correct? [y/n]: y

Specify netmask for eth0 (rear), optional? [y/n]: n

Use static IP address for eth1 (front)? [y/n]: n
```

21 Drive Packs

T a D Pac SDS

- Eac D Pac c a
- T D Pac a a OSS PCI a c ca
- B a a ac



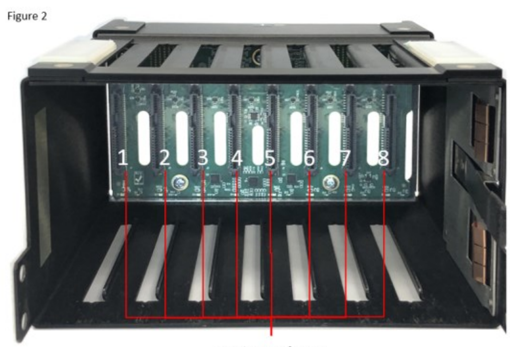
F D a

F a T U c c

Figure 1

Storage Drive Tray

Figure 2

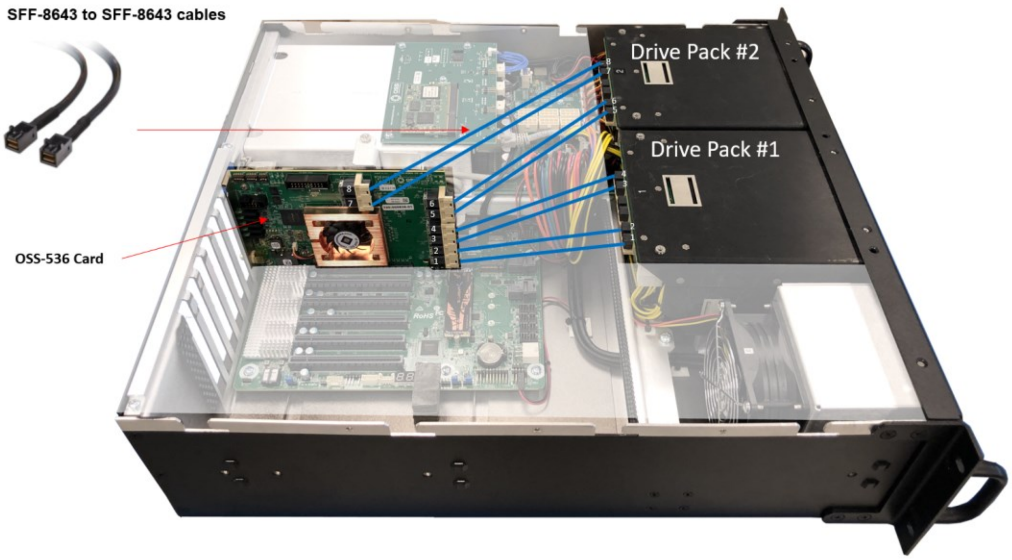


Drive Slots

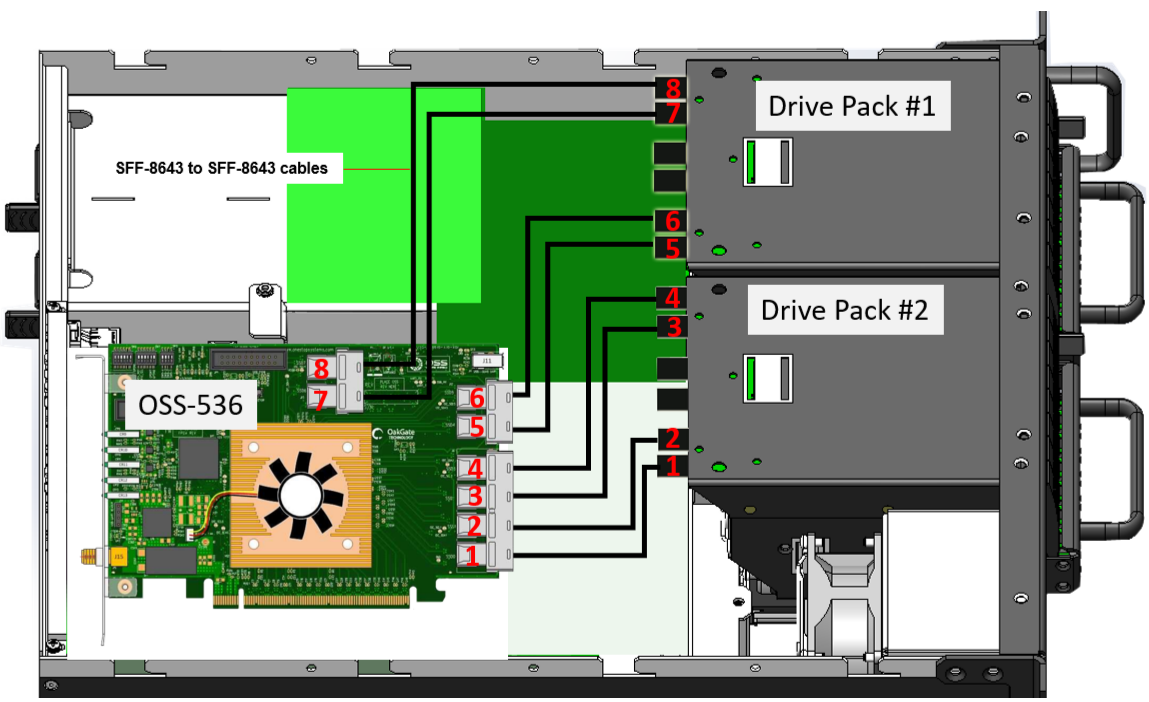
21.1 Slot / Port Mapping

FIG T OSS ca a c ca c c b ac a a SFF cab

FIG



D a b c c b OSS b a a D Pac



21.1.1 OSS-536 Port Mapping

Tab b c a a ac

PEX P	L Pa
	D Pac S
	D Pac S
	D Pac S
	D Pac S
	D Pac S
	D Pac S
	D Pac S
	D Pac S
	D Pac S
	D Pac S
	D Pac S
	D Pac S
	D Pac S
	D Pac S
	D Pac S
	D Pac S
	PCI Ca E

21.2 OSS-536 LEDs / Board LEDs:

CR Fa a E
CR PEX S c H a b a H
CR PCI R A

D AUX P G
CR L S a DP S
CR L S a DP S
CR L S a DP S
CR L S a DP S

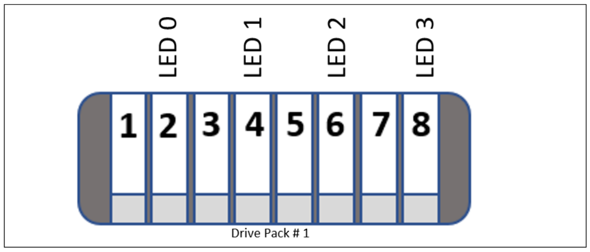
CR PEX V P G
CR PEX C P G

21.3 Bracket LINK STATUS LEDs

L S a DP S
L S a DP S
L S a DP S
L S a DP S
L S a DP S
L S a DP S
L S a DP S
L S a DP S
CE L S a Ca E PCI
PWR B a a

FIG S a c a a ac a c a LED a OSS

FIG



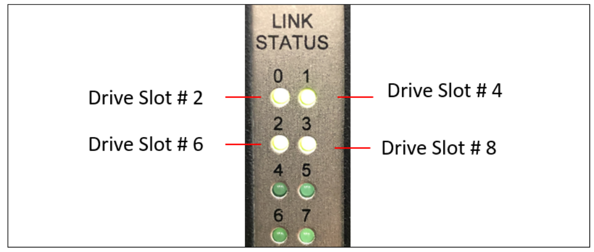
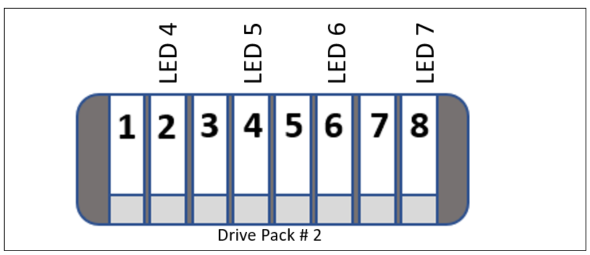
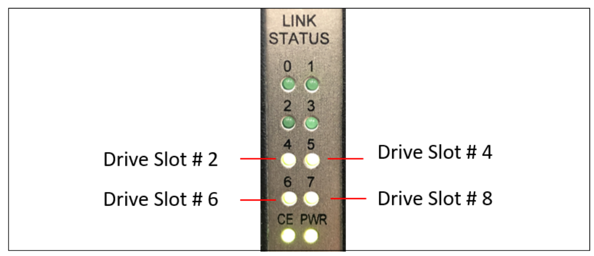


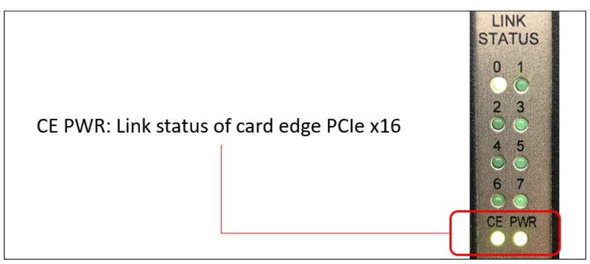
FIG S a c a a ac a c a LED a OSS

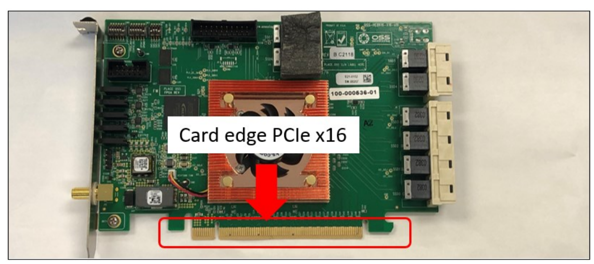
FIG





T b CE PWR LED ca

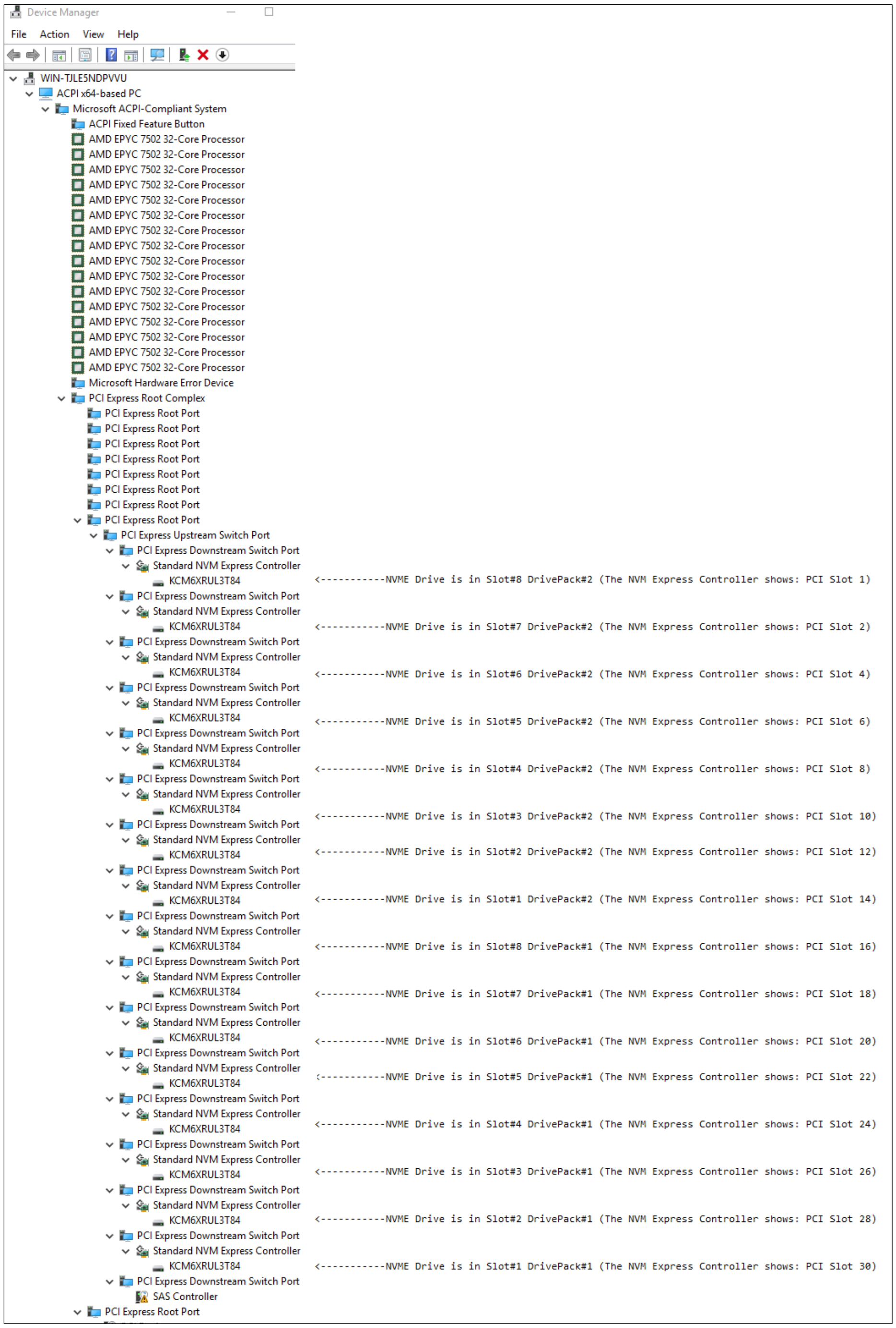




22 Hierarchy of NVME Drives - Windows OS

H a c NVME W D c Ma a D c b C c

FIG



FIG

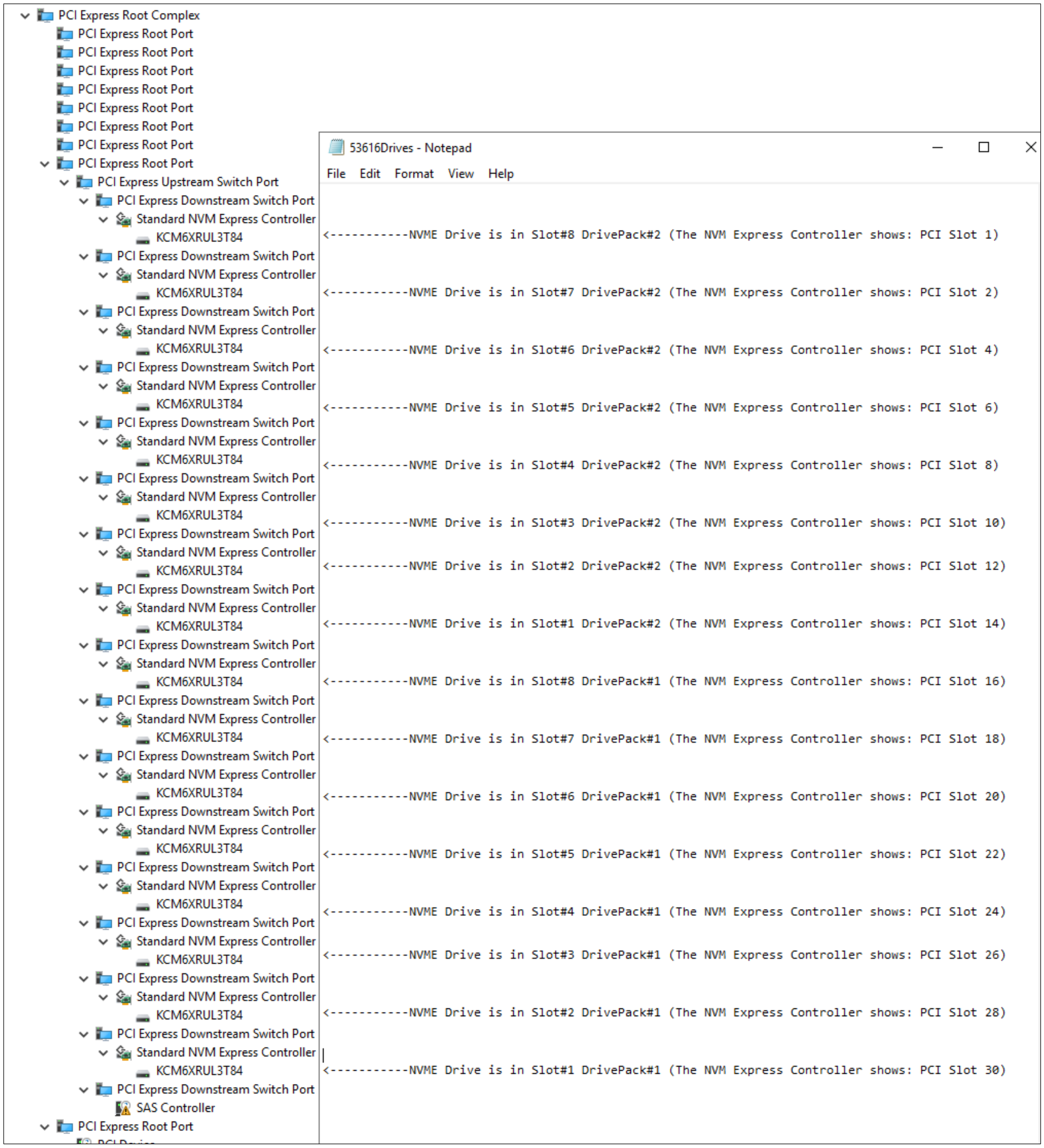
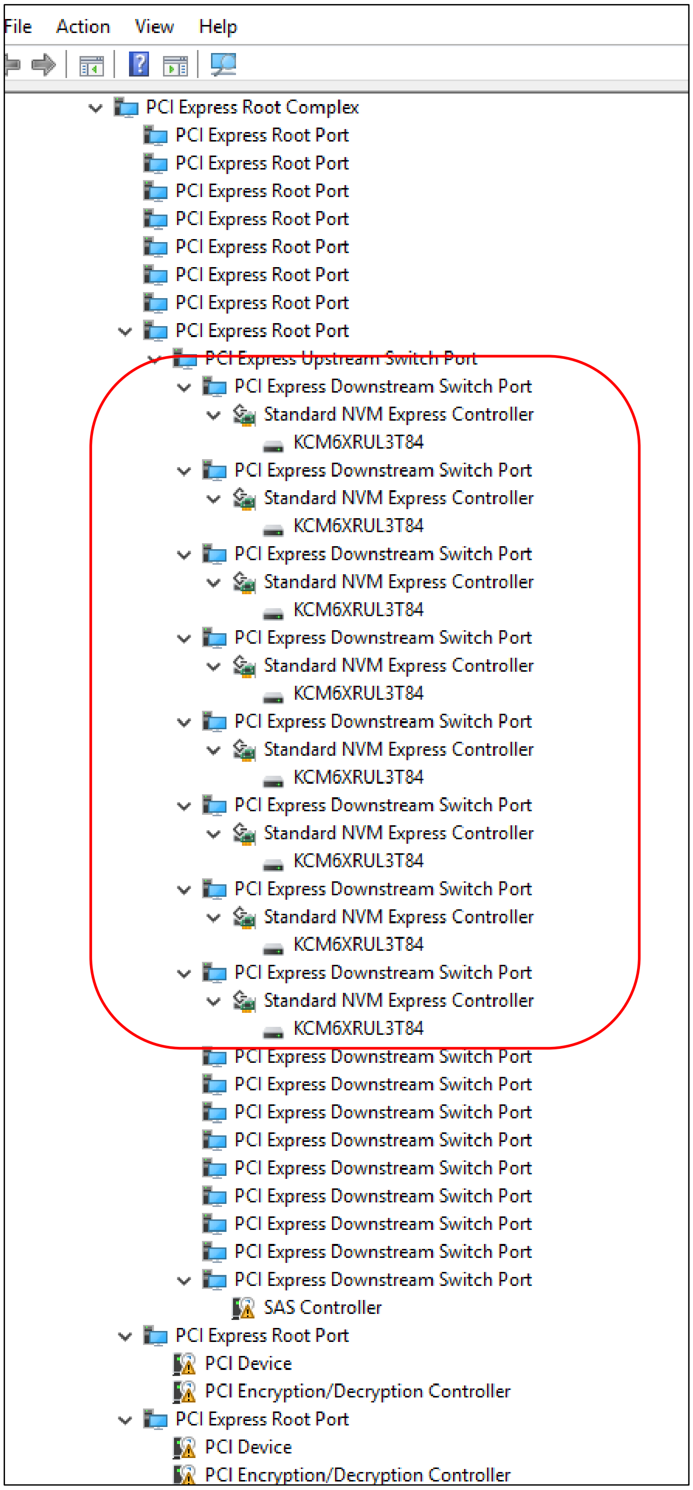

PCI Express Root Complex
PCI Express Root Port
PCI Express Root Port
PCI Express Root Port
PCI Express Root Port
PCI Express Root Port
PCI Express Root Port
PCI Express Root Port
PCI Express Root Port
PCI Express Upstream Switch Port
PCI Express Downstream Switch Port
Standard NVM Express Controller
KCM6XRUL3T84
SAS Controller
PCI Express Root Port
53616Drives - Notepad
File Edit Format View Help
<-----------NVME Drive is in Slot#8 DrivePack#2 (The NVM Express Controller shows: PCI Slot 1)
<-----------NVME Drive is in Slot#7 DrivePack#2 (The NVM Express Controller shows: PCI Slot 2)
<-----------NVME Drive is in Slot#6 DrivePack#2 (The NVM Express Controller shows: PCI Slot 4)
<-----------NVME Drive is in Slot#5 DrivePack#2 (The NVM Express Controller shows: PCI Slot 6)
<-----------NVME Drive is in Slot#4 DrivePack#2 (The NVM Express Controller shows: PCI Slot 8)
<-----------NVME Drive is in Slot#3 DrivePack#2 (The NVM Express Controller shows: PCI Slot 10)
<-----------NVME Drive is in Slot#2 DrivePack#2 (The NVM Express Controller shows: PCI Slot 12)
<-----------NVME Drive is in Slot#1 DrivePack#2 (The NVM Express Controller shows: PCI Slot 14)
<-----------NVME Drive is in Slot#8 DrivePack#1 (The NVM Express Controller shows: PCI Slot 16)
<-----------NVME Drive is in Slot#7 DrivePack#1 (The NVM Express Controller shows: PCI Slot 18)
<-----------NVME Drive is in Slot#6 DrivePack#1 (The NVM Express Controller shows: PCI Slot 20)
<-----------NVME Drive is in Slot#5 DrivePack#1 (The NVM Express Controller shows: PCI Slot 22)
<-----------NVME Drive is in Slot#4 DrivePack#1 (The NVM Express Controller shows: PCI Slot 24)
<-----------NVME Drive is in Slot#3 DrivePack#1 (The NVM Express Controller shows: PCI Slot 26)
<-----------NVME Drive is in Slot#2 DrivePack#1 (The NVM Express Controller shows: PCI Slot 28)
<-----------NVME Drive is in Slot#1 DrivePack#1 (The NVM Express Controller shows: PCI Slot 30)

FIG V a c D Ma a


Disk Management
NVMEDrives16_DiskManage.emt - Notepad
Location of Drives in the Carrier / Canister in Drive Pack.
This may vary from OS to OS
<-----------NVME Drive is in Slot#8 of DrivePack#2
<-----------NVME Drive is in Slot#7 of DrivePack#2
<-----------NVME Drive is in Slot#6 of DrivePack#2
<-----------NVME Drive is in Slot#5 of DrivePack#2
<-----------NVME Drive is in Slot#4 of DrivePack#2
<-----------NVME Drive is in Slot#3 of DrivePack#2
<-----------NVME Drive is in Slot#3 of DrivePack#2
<-----------NVME Drive is in Slot#1 of DrivePack#2
<-----------NVME Drive is in Slot#8 of DrivePack#1
<-----------NVME Drive is in Slot#7 of DrivePack#1
<-----------NVME Drive is in Slot#6 of DrivePack#1
<-----------NVME Drive is in Slot#5 of DrivePack#1
<-----------NVME Drive is in Slot#4 of DrivePack#1
<-----------NVME Drive is in Slot#3 of DrivePack#1
<-----------NVME Drive is in Slot#2 of DrivePack#1
<-----------NVME Drive is in Slot#1 of DrivePack#1

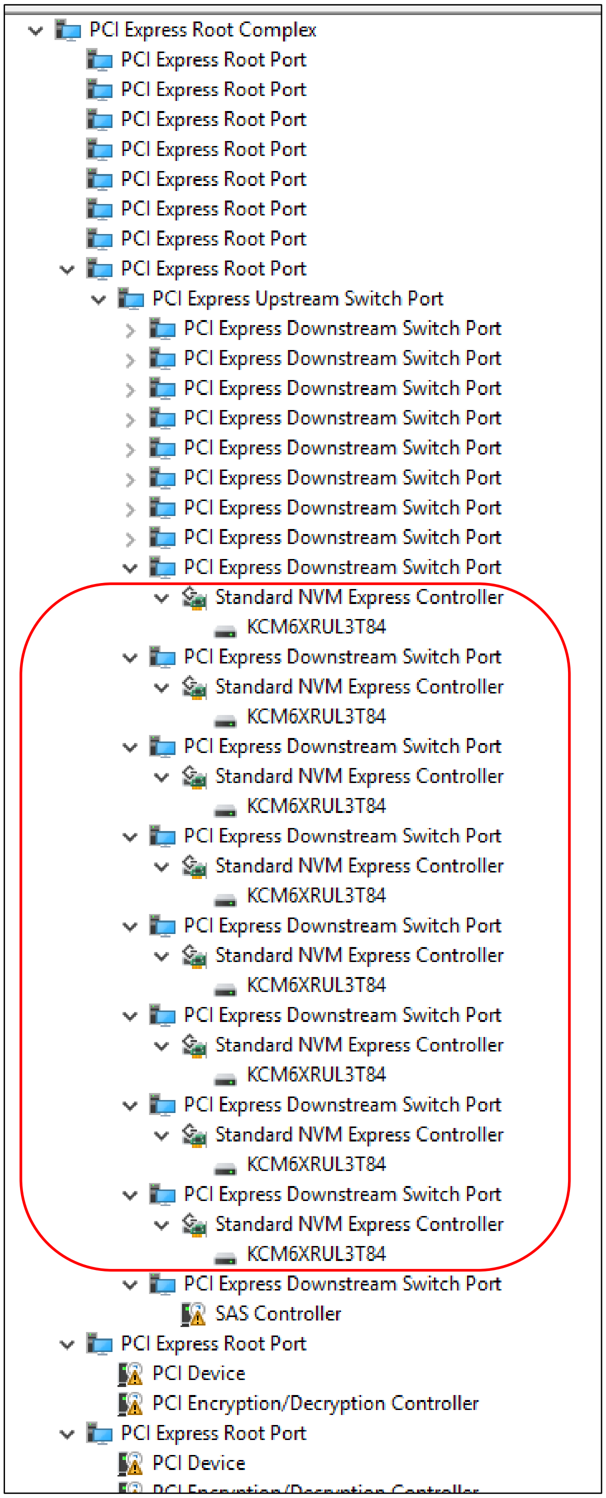
T c b c NVME W D c Ma a D Pac

FIG



T c b c NVME W D c Ma a D Pac

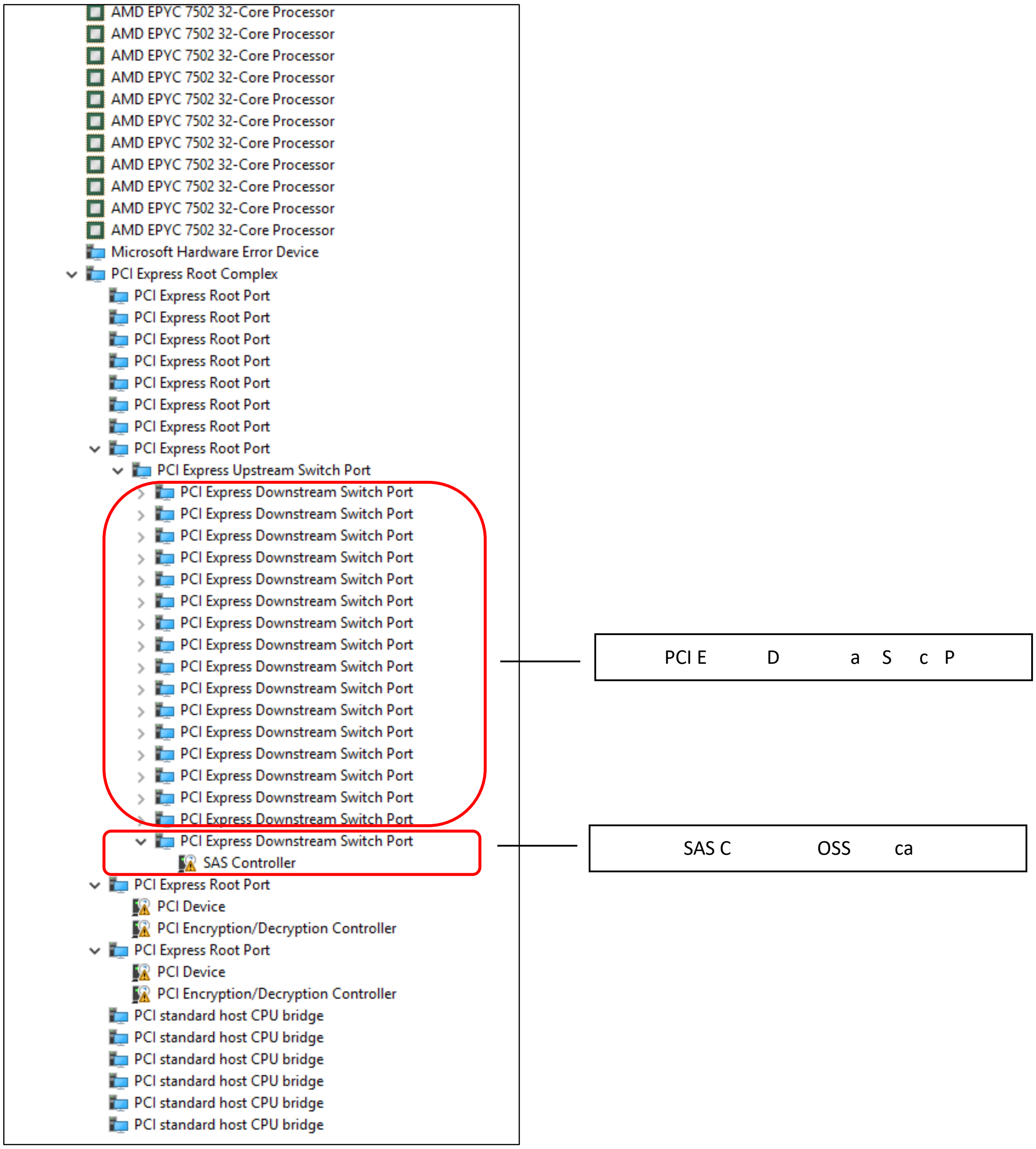
FIG



Sc b PCI E D a S c P

- I ac a
- T PCI E D a S c P SAS C OSS

FIG



NVME Drives are hot-pluggable

- Y ca a NVME O a S
- T O a S a a ca a NVME a a a ca
  c
- W O a S c NVME a a c S a a NVME C a a b
  PCI E D a S c P
  - U S a a NVME E C NVME a c a a

FIG

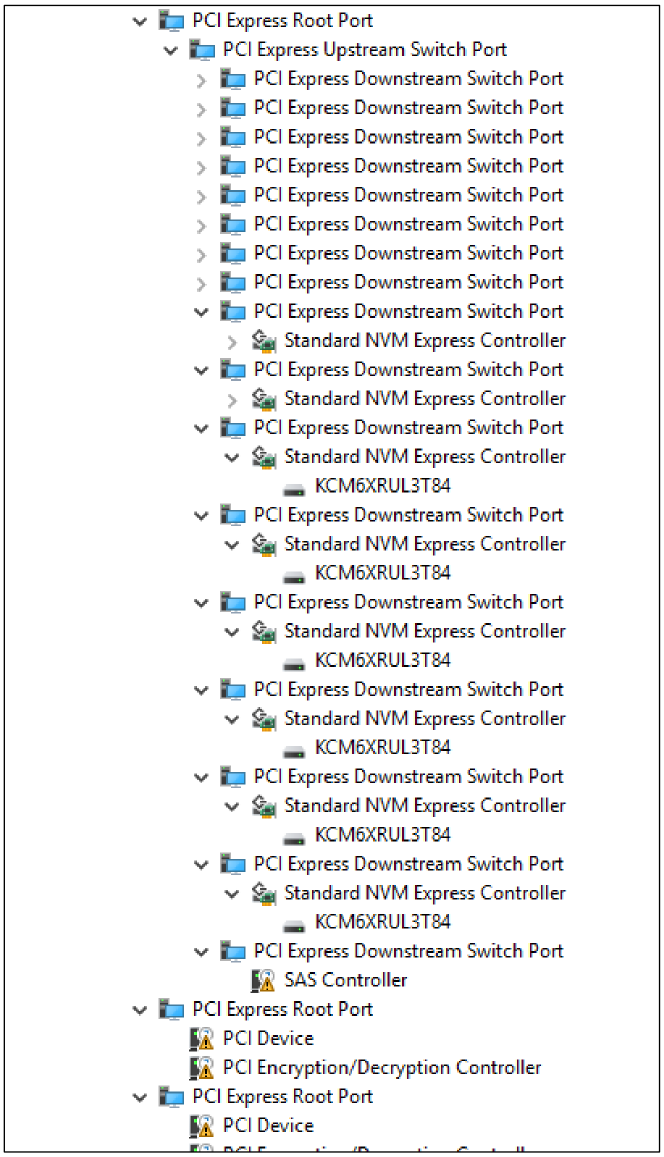
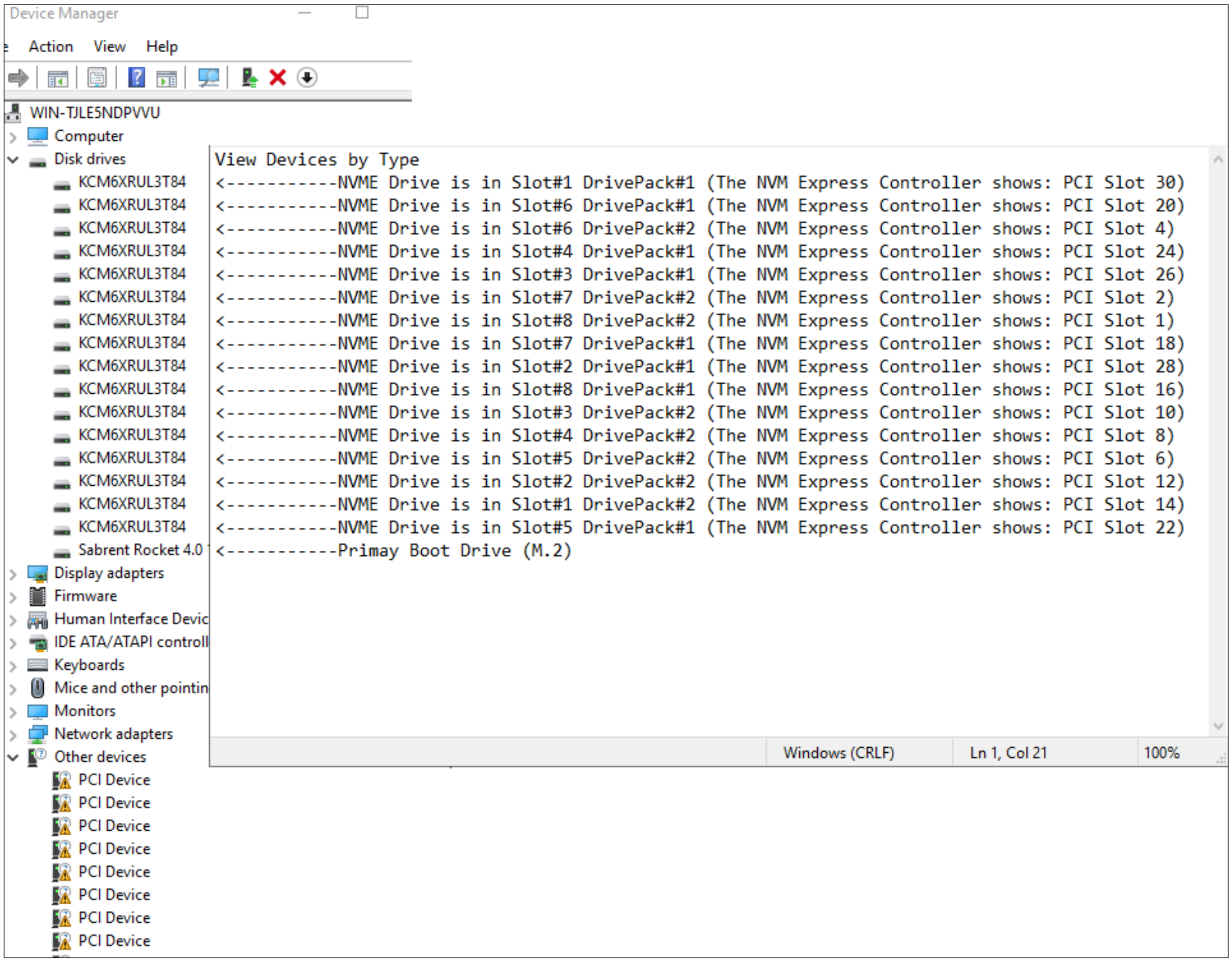


FIG S NMVE a c b W D c Ma a

FIG



23 Hierarchy of NVME Drives - Linux OS

P b NVME LINUX a c a

```
[root@OSS118 oss]# nvme list
Node             SN                   Model                    Namespace Usage                      Format           FW Rev
---------------- -------------------- ------------------------ --------- -------------------------- ---------------- --------
/dev/nvme0n1     90C0A006TTVR         KCM6XRUL3T84             1           0.00   B /   3.84  TB    512   B +  0 B   0102     ---------> Slot#8 Drivepack #2
/dev/nvme10n1    90D0A00ETTVR         KCM6XRUL3T84             1           0.00   B /   3.84  TB    512   B +  0 B   0102     ---------> Slot#6 Drivepack #1
/dev/nvme11n1    90D0A00WTTVR         KCM6XRUL3T84             1           0.00   B /   3.84  TB    512   B +  0 B   0102     ---------> Slot#5 Drivepack #1
/dev/nvme12n1    90D0A00DTTVR         KCM6XRUL3T84             1           0.00   B /   3.84  TB    512   B +  0 B   0102     ---------> Slot#4 Drivepack #1
/dev/nvme13n1    90D0A009TTVR         KCM6XRUL3T84             1           0.00   B /   3.84  TB    512   B +  0 B   0102     ---------> Slot#3 Drivepack #1
/dev/nvme14n1    90D0A00PTTVR         KCM6XRUL3T84             1           0.00   B /   3.84  TB    512   B +  0 B   0102     ---------> Slot#2 Drivepack #1
/dev/nvme15n1    90D0A00STTVR         KCM6XRUL3T84             1           0.00   B /   3.84  TB    512   B +  0 B   0102     ---------> Slot#1 Drivepack #1
/dev/nvme16n1    112103300040092      T-CREATE TM8FPE001T      1           1.02  TB /   1.02  TB    512   B +  0 B   S1218A3  ---------->>Primary boot drive
/dev/nvme1n1     3130A03GT3A8         KCM6XRUL3T84             1           0.00   B /   3.84  TB    512   B +  0 B   0105     ----------> Slot#7 Drivepack #2
/dev/nvme2n1     3130A037T3A8         KCM6XRUL3T84             1           0.00   B /   3.84  TB    512   B +  0 B   0105     ----------> Slot#6 Drivepack #2
/dev/nvme3n1     3130A03ST3A8         KCM6XRUL3T84             1           0.00   B /   3.84  TB    512   B +  0 B   0105     ----------> Slot#5 Drivepack #2
/dev/nvme4n1     3130A03WT3A8         KCM6XRUL3T84             1           0.00   B /   3.84  TB    512   B +  0 B   0105     ----------> Slot#4 Drivepack #2
/dev/nvme5n1     3130A03PT3A8         KCM6XRUL3T84             1           0.00   B /   3.84  TB    512   B +  0 B   0105     ----------> Slot#3 Drivepack #2
/dev/nvme6n1     3130A03RT3A8         KCM6XRUL3T84             1           0.00   B /   3.84  TB    512   B +  0 B   0105     ----------> Slot#2 Drivepack #2
/dev/nvme7n1     3130A036T3A8         KCM6XRUL3T84             1           0.00   B /   3.84  TB    512   B +  0 B   0105     ----------> Slot#1 Drivepack #2
/dev/nvme8n1     3130A03YT3A8         KCM6XRUL3T84             1           0.00   B /   3.84  TB    512   B +  0 B   0105     ----------> Slot#8 Drivepack #1
/dev/nvme9n1     3130A034T3A8         KCM6XRUL3T84             1           0.00   B /   3.84  TB    512   B +  0 B   0105     ----------> Slot#7 Drivepack #1
[root@OSS118 oss]#
```

P b NVME LINUX a c a

```
root@OSS118 sbin]# nvme list
Node             SN                   Model                    Namespace Usage                      Format           FW Rev
---------------- -------------------- ------------------------ --------- -------------------------- ---------------- --------
/dev/nvme0n1     90C0A006TTVR         KCM6XRUL3T84             1          61.86  GB /   3.84  TB      4 KiB +  0 B   0102    ----->>>Slot#8 Drivepack #1
/dev/nvme1n1     3130A03GT3A8         KCM6XRUL3T84             1          63.00  GB /   3.84  TB    512   B +  0 B   0105    ----->>>Slot#7 Drivepack #1
/dev/nvme2n1     3130A037T3A8         KCM6XRUL3T84             1          61.92  GB /   3.84  TB    512   B +  0 B   0105    ----->>>Slot#6 Drivepack #1
/dev/nvme3n1     3130A03ST3A8         KCM6XRUL3T84             1          61.92  GB /   3.84  TB    512   B +  0 B   0105    ----->>>Slot#5 Drivepack #1
/dev/nvme4n1     3130A03WT3A8         KCM6XRUL3T84             1          61.92  GB /   3.84  TB    512   B +  0 B   0105    ----->>>Slot#4 Drivepack #1
/dev/nvme5n1     3130A03PT3A8         KCM6XRUL3T84             1          61.92  GB /   3.84  TB    512   B +  0 B   0105    ----->>>Slot#3 Drivepack #1
/dev/nvme6n1     3130A03RT3A8         KCM6XRUL3T84             1          61.92  GB /   3.84  TB    512   B +  0 B   0105    ----->>>Slot#2 Drivepack #1
/dev/nvme7n1     3130A036T3A8         KCM6XRUL3T84             1         489.06  GB /   3.84  TB    512   B +  0 B   0105    ----->>>Slot#1 Drivepack #1
/dev/nvme8n1     112103300040092      T-CREATE TM8FPE001T      1           1.02  TB /   1.02  TB    512   B +  0 B   S1218A3
```

T c c a c NVME D Pac a c a c KIOXIA

- R ac KIOXIA a NVME a
- FIG NVME a D Pac a D Pac

FIG

Drives in Drive Pack #2

```
[root@OSS118 oss]# lspci -vvvt | grep 'KIOXIA'
 |           +-03.4-[c8-da]----00.0-[c9-da]--+-00.0-[ca]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6----------> Slot#8 Drivepack #2
 |           |                               +-01.0-[cb]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6----------> Slot#7 Drivepack #2
 |           |                               +-02.0-[cc]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6----------> Slot#6 Drivepack #2
 |           |                               +-03.0-[cd]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6----------> Slot#5 Drivepack #2
 |           |                               +-04.0-[ce]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6----------> Slot#4 Drivepack #2
 |           |                               +-05.0-[cf]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6----------> Slot#3 Drivepack #2
 |           |                               +-06.0-[d0]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6----------> Slot#2 Drivepack #2
 |           |                               +-07.0-[d1]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6----------> Slot#1 Drivepack #2
 |           |                               +-08.0-[d2]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6----------> Slot#8 Drivepack #1
 |           |                               +-09.0-[d3]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6----------> Slot#7 Drivepack #1
 |           |                               +-0a.0-[d4]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6----------> Slot#6 Drivepack #1
 |           |                               +-0b.0-[d5]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6----------> Slot#5 Drivepack #1
 |           |                               +-0c.0-[d6]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6----------> Slot#4 Drivepack #1
 |           |                               +-0d.0-[d7]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6----------> Slot#3 Drivepack #1
 |           |                               +-0e.0-[d8]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6----------> Slot#2 Drivepack #1
 |           |                               +-0f.0-[d9]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6----------> Slot#1 Drivepack #1
```

Drives in Drive Pack #1

T c c a c NVME D Pac c a b

c KIOXIA B a c

- R ac KIOXIA a NVME a
- FIG NVME a D Pac N a D Pac

FIG

```
root@OSS118 sbin]# lspci -vvvt | grep 'KIOXIA\|Broadcom'
 |           +-03.4-[c8-da]----00.0-[c9-da]--+-00.0-[ca]----00.0  Broadcom / LSI Device 02b2
 |           |                               +-01.0-[cb]----00.0  Broadcom / LSI Device 02b2
 |           |                               +-02.0-[cc]----00.0  Broadcom / LSI Device 02b2
 |           |                               +-03.0-[cd]----00.0  Broadcom / LSI Device 02b2
 |           |                               +-04.0-[ce]----00.0  Broadcom / LSI Device 02b2
 |           |                               +-05.0-[cf]----00.0  Broadcom / LSI Device 02b2
 |           |                               +-06.0-[d0]----00.0  Broadcom / LSI Device 02b2
 |           |                               +-07.0-[d1]----00.0  Broadcom / LSI Device 02b2
 |           |                               +-08.0-[d2]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6--------------->Slot#8 Drivepack #1
 |           |                               +-09.0-[d3]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6--------------->Slot#7 Drivepack #1
 |           |                               +-0a.0-[d4]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6--------------->Slot#6 Drivepack #1
 |           |                               +-0b.0-[d5]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6--------------->Slot#5 Drivepack #1
 |           |                               +-0c.0-[d6]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6--------------->Slot#4 Drivepack #1
 |           |                               +-0d.0-[d7]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6--------------->Slot#3 Drivepack #1
 |           |                               +-0e.0-[d8]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6--------------->Slot#2 Drivepack #1
 |           |                               +-0f.0-[d9]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6--------------->Slot#2 Drivepack #1
 |           |                               \-1f.0-[da]----00.0  Broadcom / LSI Device 00b2
[root@OSS118 sbin]#
```

T c c a c NVME D Pac

c KIOXIA B a c

- R ac KIOXIA a NVME a
- FIG NVME a D Pac N a D Pac

FIG

```
The 8 NVME drives are installed in DrivePack #2 of the SDS

root@OSS118 sbin]# lspci -vvvt | grep 'KIOXIA\|Broadcom'
 |           +-03.4-[c8-da]----00.0-[c9-da]--+-00.0-[ca]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6---------->>>Slot#8 Drivepack #2
 |           |                               +-01.0-[cb]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6---------->>>Slot#7 Drivepack #2
 |           |                               +-02.0-[cc]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6---------->>>Slot#6 Drivepack #2
 |           |                               +-03.0-[cd]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6---------->>>Slot#5 Drivepack #2
 |           |                               +-04.0-[ce]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6---------->>>Slot#4 Drivepack #2
 |           |                               +-05.0-[cf]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6---------->>>Slot#3 Drivepack #2
 |           |                               +-06.0-[d0]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6---------->>>Slot#2 Drivepack #2
 |           |                               +-07.0-[d1]----00.0  KIOXIA Corporation NVMe SSD Controller Cx6---------->>>Slot#2 Drivepack #2
 |           |                               +-08.0-[d2]----00.0  Broadcom / LSI Device 02b2
 |           |                               +-09.0-[d3]----00.0  Broadcom / LSI Device 02b2
 |           |                               +-0a.0-[d4]----00.0  Broadcom / LSI Device 02b2
 |           |                               +-0b.0-[d5]----00.0  Broadcom / LSI Device 02b2
 |           |                               +-0c.0-[d6]----00.0  Broadcom / LSI Device 02b2
 |           |                               +-0d.0-[d7]----00.0  Broadcom / LSI Device 02b2
 |           |                               +-0e.0-[d8]----00.0  Broadcom / LSI Device 02b2
 |           |                               +-0f.0-[d9]----00.0  Broadcom / LSI Device 02b2
 |           |                               \-1f.0-[da]----00.0  Broadcom / LSI Device 00b2
[root@OSS118 sbin]#
```

T c c NVME a a BUS b c a b

c KIOXIA

FIG T c a ac a a b b

```
[root@OSS118 oss]# lspci | grep KIOXIA
ca:00.0 Non-Volatile memory controller: KIOXIA Corporation NVMe SSD Controller Cx6 (rev 01)----------> Slot#8 Drivepack #2
cb:00.0 Non-Volatile memory controller: KIOXIA Corporation NVMe SSD Controller Cx6 (rev 01)----------> Slot#7 Drivepack #2
cc:00.0 Non-Volatile memory controller: KIOXIA Corporation NVMe SSD Controller Cx6 (rev 01)----------> Slot#6 Drivepack #2
cd:00.0 Non-Volatile memory controller: KIOXIA Corporation NVMe SSD Controller Cx6 (rev 01)----------> Slot#5 Drivepack #2
ce:00.0 Non-Volatile memory controller: KIOXIA Corporation NVMe SSD Controller Cx6 (rev 01)----------> Slot#4 Drivepack #2
cf:00.0 Non-Volatile memory controller: KIOXIA Corporation NVMe SSD Controller Cx6 (rev 01)----------> Slot#3 Drivepack #2
d0:00.0 Non-Volatile memory controller: KIOXIA Corporation NVMe SSD Controller Cx6 (rev 01)----------> Slot#2 Drivepack #2
d1:00.0 Non-Volatile memory controller: KIOXIA Corporation NVMe SSD Controller Cx6 (rev 01)----------> Slot#1 Drivepack #2
d2:00.0 Non-Volatile memory controller: KIOXIA Corporation NVMe SSD Controller Cx6 (rev 01)----------> Slot#8 Drivepack #1
d3:00.0 Non-Volatile memory controller: KIOXIA Corporation NVMe SSD Controller Cx6 (rev 01)----------> Slot#7 Drivepack #1
d4:00.0 Non-Volatile memory controller: KIOXIA Corporation NVMe SSD Controller Cx6 (rev 01)----------> Slot#6 Drivepack #1
d5:00.0 Non-Volatile memory controller: KIOXIA Corporation NVMe SSD Controller Cx6 (rev 01)----------> Slot#5 Drivepack #1
d6:00.0 Non-Volatile memory controller: KIOXIA Corporation NVMe SSD Controller Cx6 (rev 01)----------> Slot#4 Drivepack #1
d7:00.0 Non-Volatile memory controller: KIOXIA Corporation NVMe SSD Controller Cx6 (rev 01)----------> Slot#3 Drivepack #1
d8:00.0 Non-Volatile memory controller: KIOXIA Corporation NVMe SSD Controller Cx6 (rev 01)----------> Slot#2 Drivepack #1
d9:00.0 Non-Volatile memory controller: KIOXIA Corporation NVMe SSD Controller Cx6 (rev 01)----------> Slot#1 Drivepack #1
```

Bus Number assignment (will vary from OS to OS, or when using different computers)

24 Contacting Technical Support

O a ca b ac b a a b a S a a ab M a
F a AM PM PT W c ac O S S T c ca S a b c
a

Na
C a Na
P N b
Fa N b
E a A
M N b

S a N b
C Ma
C M
O a S a V
Ma M PCI ca a c a
D a c b

Y ca a b a c

T b a c ca OSS O S a

c c a a

F a c T c ca S a RMA R F a a ab S S c b S
c a a P a a a b c c a
a b
F a D a W b D a T a T b S c a b

F a a b a a c b c a c
a c a a

25 Returning Merchandise to One Stop Systems

I ac c c ac OSS S c R a b a a R M c a A a RMA
b P b a a ab c **One Stop Systems will return any product that is not accompanied by an RMA number** P a a O S S WILL NOT
acc COD ac a b c a a

S ac a c a b

RMA
O S S
E S S
E c CA
USA

I c a ac a a O S
S c H a c O S S a a a ac a a a a
a bac a a ac a c a a a a c a
c a O S S ca b b a ca a a c c c
c c a a ac PCI a c a a a a a a a
ac P ca a a a c a a b a a acc a c O
Wa a P c P a c a b a a b a a
c a c P a ca a RMA b

26 Shipping / transporting the card

U a a ac a a a

IMPORTANT

PCI ca b b a a b a a a
a a

27 APPENDIX A Compliance

FCC

NOTE T a b a a a c a C a A a c a a
FCC R T a a ab c a a a c
a a c c a T a a ca a a a c a
a a acc a c c a a a ca a c a c ca
O a a a a a ca a c c ca c
b c c c a
T c c Pa FCC R O a b c c c a
ca a c a c acc a c c c c a a ca
a
C a ca a b a b c a c c c
a a

NOTE

T a b a a c a b a a a a c a
ca a ca a c b c a a a a a

I Ca a a

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