RHEL: Checking HBAs

Article Number: 72 | Rating: Unrated | Last Updated: Sun, May 27, 2018 8:54 PM # Tested on RHEL 6

Show the instances of FC ports connected to the pci bus:

lspci | grep -i "Fibre"

07:00.0 Fibre Channel: QLogic Corp. ISP2532-based 8Gb Fibre Channel to PCI Express HBA (rev 02)

```
07:00.1 Fibre Channel: QLogic Corp. ISP2532-based 8Gb Fibre Channel to PCI Express HBA (rev 02)
```

```
systool -c fc_host
```

Class = "fc_host"

```
Class Device = "host1"
Device = "host1"
```

```
Class Device = "host2"
Device = "host2"
```

```
# "systool -c fc_host" command in verbose mode shows the WWN of our
HBAs (port_name).
# In the example below, the WWNs of our HBAs are '5001438028cb8124' &
'5001438028cb8126'
# respectively
```

```
systool -c fc_host -v
Class = "fc_host"
```

```
Class Device = "host1"
Class Device path = "/sys/devices/pci0000:00/0000:00:03.0/0000:0
```

4:00.0/host1/fc_host/host1"

	dev_loss_tmo	=	"16"			
	fabric_name	=	"0x1000005339ade00"			
	issue_lip	=	<store method="" only=""></store>			
	max_npiv_vports	=	"254"			
	node_name	=	"0x5001438028cb8125"			
	npiv_vports_inuse	=	" 0 "			
	port_id	=	"0xlaab00"			
	port_name	=	"0x5001438028cb8124"			
	port_state	=	"Online"			
	port_type	=	"NPort (fabric via point-to-point)"			
	speed	=	"8 Gbit"			
	supported_classes	=	"Class 3"			
	supported_speeds	=	"1 Gbit, 2 Gbit, 4 Gbit, 8 Gbit"			
	symbolic_name	=	"HPAJ764A FW:v7.00.01			
DVR:v8	.05.00.03.06.5-k2"					
	system_hostname	=	пп			
	tgtid_bind_type	=	"wwpn (World Wide Port Name)"			
	uevent	=				
	vport_create	=	<store method="" only=""></store>			
	vport_delete	=	<store method="" only=""></store>			
	Device = "host1"					
	Device path =					
"/sys/	devices/pci0000:00/00	00):00:03.0/0000:04:00.0/host1"			
	fw_dump		=			
	nvram		= "ISP "			
	optrom		=			
	optrom_ctl		= <store method="" only=""></store>			
	reset		= <store method="" only=""></store>			
	sfp		= ""			
	uevent		= "DEVTYPE=scsi_host"			
	vpd		= "\$"			
C	lass Device = "host2'	ı				
C	Class Device path = "/sys/devices/pci0000:00/0000:00:03.0/0000:0					

```
4:00.1/host2/fc_host/host2"
```

dev_loss_tmo	=	"16"
fabric_name	=	"0x1000005339ac200"
issue_lip	=	<store method="" only=""></store>
max_npiv_vports	=	"254"
node_name	=	"0x5001438028cb8127"
npiv_vports_inuse	=	" 0 "
port_id	=	"0x20ab00"
port_name	=	"0x5001438028cb8126"
port_state	=	"Online"
port_type	=	"NPort (fabric via point-to-point)"
speed	=	"8 Gbit"

[...]

For each FC initiator port should have an instance under
/sys/class/fc_host

ll /sys/class/fc_host/

total O

lrwxrwxrwx 1 root root 0 Mar 25 11:53 host1 -> ../../devices/pci00 00:00/0000:00:03.0/0000:04:00.0/host1/fc_host/host1

lrwxrwxrwx 1 root root 0 Mar 25 11:53 host2 -> ../../devices/pci00 00:00/0000:00:03.0/0000:04:00.1/host2/fc_host/host2

If FC have never been scanned before, LUNs are not yet visible to the system and commands # like "multipath" or "systool" won't be able to show the LUNs

11 /sys/class/fc_transport/
 total 0

systool -c fc_transport -v

Class = "fc_transport"

Let's see what happens after scanning the FC. Based on the FC instances found before:

echo "- - -" >> /sys/class/scsi_host/host1/scan
echo "- - -" >> /sys/class/scsi_host/host2/scan

ll /sys/class/fc_transport/

```
total 0
```

lrwxrwxrwx 1 root root 0 Apr 3 10:27 target1:0:0 -> ../../devices
/pci0000:00/0000:00:03.0/0000:04:00.0/host1/rport-1:0-0/target1:0:0/f
c_transport/target1:0:0

lrwxrwxrwx 1 root root 0 Apr 3 10:27 target1:0:1 -> ../../devices
/pci0000:00/0000:00:03.0/0000:04:00.0/host1/rport-1:0-1/target1:0:1/f
c_transport/target1:0:1

lrwxrwxrwx 1 root root 0 Apr 3 10:27 target2:0:0 -> ../../devices
/pci0000:00/0000:00:03.0/0000:04:00.1/host2/rport-2:0-0/target2:0:0/f
c_transport/target2:0:0

lrwxrwxrwx 1 root root 0 Apr 3 10:27 target2:0:1 -> ../../devices
/pci0000:00/0000:00:03.0/0000:04:00.1/host2/rport-2:0-1/target2:0:1/f
c_transport/target2:0:1

systool -c fc_transport

```
Class = "fc_transport"

Class Device = "0:0"

Device = "target1:0:0"

Class Device = "0:0"

Device = "target2:0:0"

Class Device = "0:1"

Device = "target1:0:1"

Class Device = "0:1"

Device = "target2:0:1"
```

Now, we are also able to see the LUNs attached to the server (if any) via "multipath"

multipath -11

200255c3a1108000e dm-2 NEC, DISK ARRAY size=15G features='0' hwhandler='1 alua' wp=rw |-+- policy='round-robin 0' prio=130 status=active | |- 1:0:0:0 sdc 8:32 active ready running - 2:0:1:0 sdi 8:128 active ready running `-+- policy='round-robin 0' prio=10 status=enabled |- 2:0:0:0 sdg 8:96 active ready running `- 1:0:1:0 sde 8:64 active ready running 200255c3a1108000f dm-3 NEC, DISK ARRAY size=160G features='0' hwhandler='1 alua' wp=rw |-+- policy='round-robin 0' prio=130 status=active | |- 1:0:1:1 sdf 8:80 active ready running - 2:0:0:1 sdh 8:112 active ready running `-+- policy='round-robin 0' prio=10 status=enabled |- 1:0:0:1 sdd 8:48 active ready running `- 2:0:1:1 sdj 8:144 active ready running

```
# "systool -c fc_transport" command in verbose mode can give some
interesting information
# like the WWNN of the ports of the Fibre Channel storage servers
```

(port_name)

```
systool -c fc_transport -v
```

Class = "fc_transport"

Class Device = "0:0" Class Device path = "/sys/devices/pci0000:00/0000:00:03.0/0000:0 4:00.0/host1/rport-1:0-0/target1:0:0/fc_transport/target1:0:0"

```
node_name
                         = "0x200000255c3a1108"
                         = "0x031500"
      port_id
      port_name
                         = "0x220000255c3a1108"
      uevent
                          =
      Device = "target1:0:0"
      Device path = "/sys/devices/pci0000:00/0000:00:03.0/0000:04:00
.0/host1/rport-1:0-0/target1:0:0"
                            = "DEVTYPE=scsi_target"
        uevent
    Class Device = "0:0"
     Class Device path = "/sys/devices/pci0000:00/0000:00:03.0/0000:0
4:00.1/host2/rport-2:0-0/target2:0:0/fc_transport/target2:0:0"
                          = "0x200000255c3a1108"
      node_name
                         = "0x1fdb00"
      port_id
      port_name
                         = "0x2f0000255c3a1108"
      uevent
                          =
      Device = "target2:0:0"
      Device path = "/sys/devices/pci0000:00/0000:00:03.0/0000:04:00
.1/host2/rport-2:0-0/target2:0:0"
        uevent
                            = "DEVTYPE=scsi_target"
    Class Device = "0:1"
     Class Device path = "/sys/devices/pci0000:00/0000:00:03.0/0000:0
4:00.0/host1/rport-1:0-1/target1:0:1/fc_transport/target1:0:1"
      node name
                          = "0x200000255c3a1108"
                          = "0x032600"
      port id
      port_name
                         = "0x2a0000255c3a1108"
      uevent
                          =
```

```
[...]
```

To look at information regarding the SCSI adapters present ('-v' for verbose):

systool -c scsi_host

```
Class = "scsi_host"
Class Device = "host0"
Device = "host0"
Class Device = "host1"
Device = "host1"
Class Device = "host2"
Device = "host2"
Class Device = "host3"
Device = "host3"
Class Device = "host4"
Device = "host4"
```

To see what Fibre Channel devices are connected to the Fibre Channel HBA cards:

```
systool -c fc_remote_ports -d
Class = "fc_remote_ports"
Class Device = "0-0"
Device = "rport-1:0-0"
Class Device = "0-0"
Device = "rport-2:0-0"
Class Device = "0-1"
Device = "rport-1:0-1"
```

```
Class Device = "0-1"
Device = "rport-2:0-1"
```

systool -c fc_remote_ports -v -d

Class = "fc_remote_ports"

```
Class Device = "0-0"

Class Device path = "/sys/devices/pci0000:00/0000:00:03.0/0000:0

4:00.0/host1/rport-1:0-0/fc_remote_ports/rport-1:0-0"
```

dev_loss_tmo	=	"864000"
fast_io_fail_tmo	=	" 5 "
node_name	=	"0x200000255c3a1108"
port_id	=	"0x031500"
port_name	=	"0x220000255c3a1108"
port_state	=	"Online"
roles	=	"FCP Target"
<pre>scsi_target_id</pre>	=	" () "
supported_classes	=	"Class 3"
uevent	=	

```
Class Device = "0-0"

Class Device path = "/sys/devices/pci0000:00/0000:00:03.0/0000:0

4:00.1/host2/rport-2:0-0/fc_remote_ports/rport-2:0-0"
```

```
dev_loss_tmo = "864000"
fast_io_fail_tmo = "5"
node_name = "0x200000255c3a1108"
port_id = "0x1fdb00"
port_name = "0x2f0000255c3a1108"
port_state = "0nline"
```

```
[...]
```

For information on SCSI disks connected to a system ('-v' for verbose):

```
systool -c scsi_disk
Class = "scsi_disk"
  Class Device = "0:0:0"
   Device = "0:0:0:0"
  Class Device = "0:0:0"
   Device = "1:0:0:0"
  Class Device = "0:0:0"
   Device = "2:0:0:0"
  Class Device = "0:0:1"
   Device = "0:0:0:1"
  Class Device = "0:0:1"
   Device = "1:0:0:1"
  Class Device = "0:0:1"
   Device = "2:0:0:1"
  Class Device = "0:1:0"
   Device = "1:0:1:0"
  Class Device = "0:1:0"
   Device = "2:0:1:0"
  Class Device = "0:1:1"
   Device = "1:0:1:1"
  Class Device = "0:1:1"
   Device = "2:0:1:1"
```

To show more disk information including which hosts are connected to which disks:

systool -b scsi -v

[...]

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