

Cannot Find Virtual Disks to install/boot from

This document describes the procedure on how to recover from the problem of disks not showing when trying to boot a VIO client or install a VIO client partition.

Description of the problem:

Sometimes after the virtual server and the client SCSI adapters are created and the virtual target device is created on the VIO server, the virtual disks cannot be found to install the client partition from or in the case where the client is already installed, then the virtual disks are not found to boot the client partition from.

Debugging the problem:

- **Levels of HMC, microcode and VIOS**

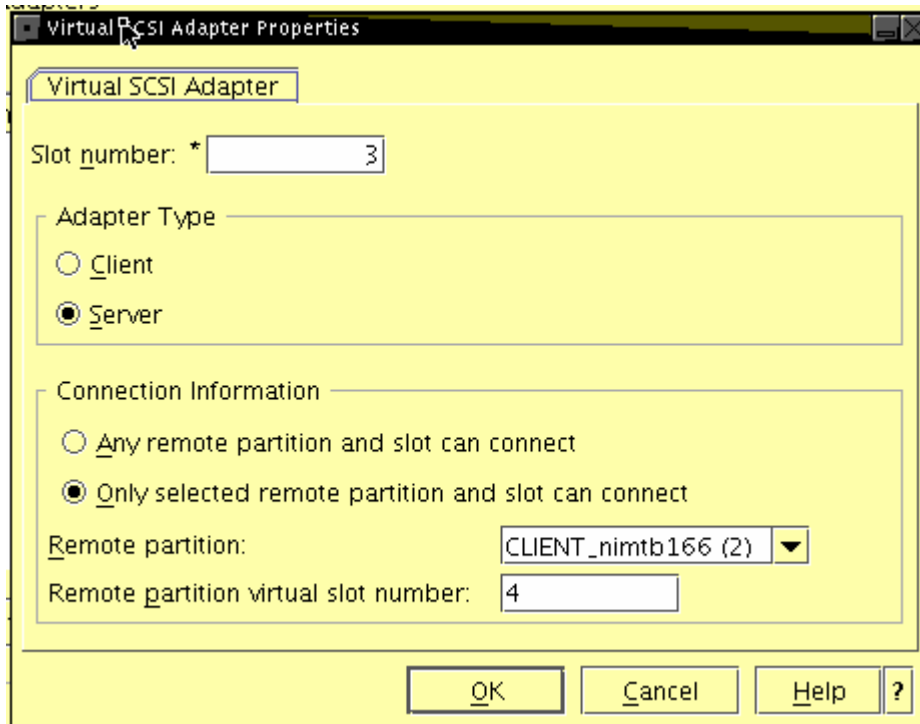
First thing to check is that the customer is at the current levels of the HMC, the F/W and the VIO server.

- **Mapping between the server and the client SCSI adapters**

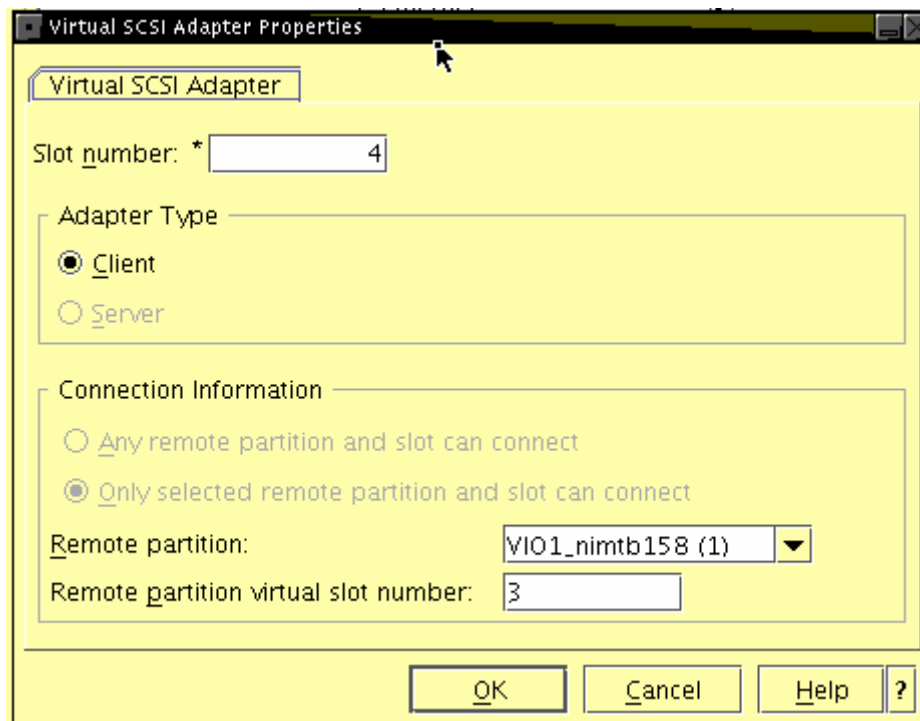
Also check that the server virtual SCSI slot number is mapped correctly to the Client LPAR remote slot number and vice versa. To check for that, right click on the profile of the server/client → click on properties → click on the Virtual I/O tab → check the properties of the server/client SCSI adapter to see that remote partition and remote partition virtual slot number for the choice “only selected remote partition and slot can connect” are correct.

An example:

For the VIO server, in this case, VIO1_nimtb158, the following figure shows the client partition name (CLIENT_nimtb166) and slot number(4) that can connect to the server SCSI adapter in the slot 3:



For the VIO client, CLIENT_nimtb166, the following figure shows the server partition name (VIO1_nimtb158) and slot number (3) that can connect to the client SCSI adapter in the slot 4:



- **How to correct the mapping?**

If the slot numbers are not mapped correctly between the server and client partitions, then from the HMC, go to the properties of the profiles of the server and modify them to reflect the mapping correctly and then run “cfgdev” on the VIO server . For the client partition, after changing the properties, shutdown/activate the partition.

- **Commands to run to check for correct mapping**

Once you have checked for the above, then run the following commands on the server.

\$ lsmap –all

| SVSA | Physloc | Client Partition ID |
|----------------|---|---------------------|
| vhost0 | U9113.550.10BE8DD-V1-C3 | 0x00000002 |
| VTD | vhdisk0 | |
| LUN | 0x8100000000000000 | |
| Backing device | hdisk5 | |
| Physloc | U787B.001.DNW025F-P1-C5-T1-W5005076300C10899-L536F00000000000 | |

How to interpret “lsmap” output?

In the previous example, the client partition id was 2, if the client is already installed, then you will see it displayed under the “Client Partition ID”. In the example, it is 0x00000002. And the slot number of the server SCSI adapter is displayed under the second column “Physloc”. Look at the last digit(s) displayed under “Physloc” field, in this case, it is the digit “3” following the “-C”, which corresponds to the slot number.

In the case where the client partition is not installed yet, you will see it displayed as 0x00000000.

Run the lsdev –virtual command on the server. It should show both the associated virtual SCSI Server Adapter and the Virtual Target Device in Available state.

\$ lsdev –virtual

| name | status | description |
|------|--------|-------------|
|------|--------|-------------|

```

..
vhost0      Available Virtual SCSI Server Adapter
..
..
vhdisk0     Available Virtual Target Device - Disk
..
..
..

```

Running the command `lshwres` command as `hscroot` user on the HMC also yields information that can be used to check out if the mapping is right.

An example:

```

hscroot@nimtb150:~> lshwres -r virtualio --rsubtype scsi -m
nimtb151_vios_550 --level lpar
..
..
lpar_name=VIO1_nimtb158,lpar_id=1,slot_num=3,state=null,adapter_t
ype=server,remote_lpar_id=2,remote_lpar_name=CLIENT_nimtb166,remo
te_slot_num=4,is_required=1,backing_devices=0x8100000000000000/U7
87B.001.DNW025F-P1-C5-T1-W5005076300C10899-
L536F000000000000/hdisk5
..
..
lpar_name=CLIENT_nimtb166,lpar_id=2,slot_num=4,state=null,adapter
_type=client,remote_lpar_id=1,remote_lpar_name=VIO1_nimtb158,remo
te_slot_num=3,is_required=1,backing_devices=none
..
..
hscroot@nimtb150:~>

```

The above output shows the same mapping between the VIO server partition `VIO1_nimtb158` and the client partition `CLIENT_nimtb166` as illustrated in the two figures in this techdoc.

- **Last Resort**

If everything listed above is setup fine and if the customer still sees the problem, then suggest to the customer to recycle power on the CEC.

- **Relevant Information**

This problem has been fixed in the F/W update of GA5.

Quoting from the defect 498330:

"Problem is encountered when only the Remote slot or Lp fields are changed for a Vscsi server adapter. Removing the adapter and

then an add should correct the problem." Also cycling power on the CEC. This is fixed in GA5 firmware.

..

To overcome this without GA5, you may DLPAR the VIO adapter out of the partition and add it back in, or IPL the CEC to recover. At that point, the VIO adapter should show up. The problem happens when VIO slot number changes are made on the adapters after they are initially defined."

This fix is available in F/W 01SF230 release and 126 level which is available at the following url:

<http://techsupport.services.ibm.com/server/mdownload2/download.html>