

Backing up your VIOS configuration with `viosbr`.

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After applying Fix Pack to my VIOS 2.1 server, I thought I'd try out the new `viosbr` command.

```
$ ioslevel
```

```
2. 1.2.10-FP-22
```

The man page for `viosbr` states that this command can be used to backup and restore the virtual I/O server configuration.

```
$ man viosbr
```

```
viosbr command
```

```
Purpose
```

```
Performs the operations for backing up the virtual and logical configuration, listing the configuration,  
and restoring the configuration of the Virtual I/O Server.
```

```
The viosbr command can be run only by the padmin user.
```

```
.....
```

First I attempted the -view and -list options and found that the default location for these backup files was in padmin's home directory under cfgbackups.

```
$ viosbr -view -list
```

```
/home/padmin/cfgbackups/ not found
```

From the man page:

-list

This option displays backup files from either the **default location /home/padmin/cfgbackups** or a user

Specified location.

So I created this directory and ran a viosbr backup.

```
$ mkdir cfgbackups
```

```
$ viosbr -backup -file bvio83_vios_config_bkp
```

```
$ viosbr -view -list
```

1. bvio83_vios_config_btar.gz

A tar/gzipped file was created in the cfgbackups directory.

```
$ ls -ltr cfgbackups
```

```
total 8
```

```
-rw-r--r-- 1 root  staff    2959 Dec 9 09:47 bvio83_vios_config_bkp.tar.gz
```

This file is in XML format.

```
$ r oem
```

```
oem_setup_env
```

```
# set -o vi
```

```
# pwd
```

```
/home/padmin
```

```
# cd cfgbackups
```

```
# ls -ltr | tail -1
```

```
-rw-r--r-- 1 root  staff    2959 Dec 9 09:34 bvio83_vios_config_bkp.tar.gz
```

```
$ gzip -d bvio83_vios_config_bkp.tar.gz
```

```
$ ls -ltr | tail -1
```

```
-rw----- 1 root staff  24576 Dec 09 09:36 bvio83_vios_config_bkp.tar
```

```
$ tar -tvf bvio83_vios_config_bkp.tar
```

```
-rw-r--r-- 0 1  23021 Dec 09 09:34:07 2009 bvio83_vios_config_bkp
```

```
$ tar -xvf bvio83_vios_config_bkp.tar
```

```
x bvio83_vios_config_bkp, 23021 bytes, 45 media blocks.
```

```
$ vim bvio83_vios_config_bkp
```

<vios-backup>

<general>

<xml-version>1.0</xml-version>

<xml-ch-date>0</xml-ch-date>

<backUpDate>2009-12-09</backUpDate>

<backUpTime>09:34:03</backUpTime>

<backUpPrPID>389216</backUpPrPID>

<aix-level>6.1.4.0</aix-level>

<vios-level>2.1.2.10-FP-22</vios-level>

<code-list>

src/bos/usr/ccs/lib/libc/__threads_init.c

src/rspc/usr/lib/methods/virtualcfg/virtualcfg.c

src/rspc/usr/lib/methods/virtualcfg/backup.c

src/rspc/usr/lib/methods/virtualcfg/backup_restore_utils.c

src/rspc/usr/lib/methods/virtualcfg/hash_utils.c

src/rspc/usr/lib/methods/virtualcfg/xml_writer.c

src/rspc/usr/lib/methods/virtualcfg/xml_utils.c

src/rspc/usr/lib/methods/virtualcfg/view.c

src/rspc/usr/lib/methods/virtualcfg/saxParser_utils.c

src/rspc/usr/lib/methods/virtualcfg/restore.c

src/rspc/usr/lib/methods/virtualcfg/restore_utils.c

src/rspc/usr/lib/methods/cfg_vt_common/cfg_vtdev_common.c

</code-list>

</general>

<controller>

<name>lhea0</name>

<state>AVAILABLE</state>

<locCode>U78A5.001.WIH074C-P1</locCode>

<unique_type>adapter/chrp/IBM,lhea</unique_type>

<type>LHEA</type>

</controller>

<controller>

<name>ent0</name>

<state>AVAILABLE</state>

<locCode>U78A5.001.WIH074C-P1-T6</locCode>

<unique_type>adapter/IBM,lhea/ethernet</unique_type>

<type>LPHEA</type>

</controller>

```
<controller>

  <name>ent1</name>

  <state>AVAILABLE</state>

  <locCode>U78A5.001.WIH074C-P1-T7</locCode>

  <unique_type>adapter/IBM,lhea/ethernet</unique_type>

  <type>LPHEA</type>

</controller>
```

....

The `-view` flag allowed me to view the configuration information stored in the backup file.

```
$ viosbr -view -file /tmp/bvio83_vios_config_bkp.tar.gz
```

Controllers:

```
=====
```

```
Name  Phys Loc
```

```
----
```

```
iscsi0
```

```
sisas0      U78A5.001.WIH074C-P1-T5
```

pager0	U7998.61X.10071FA-V1-C7-L0-L0
vasi0	U7998.61X.10071FA-V1-C7
usbhc0	U78A5.001.WIH074C-P1
usbhc1	U78A5.001.WIH074C-P1
vbsd0	U7998.61X.10071FA-V1-C7-L0
usbhc2	U78A5.001.WIH074C-P1
sata0	U78A5.001.WIH074C-P1-T5
lhea0	U78A5.001.WIH074C-P1
ibmvmc0	U7998.61X.10071FA-V1-C2
ati0	U78A5.001.WIH074C-P1-C5-T1
fcs0	U78A5.001.WIH074C-P1-C6-T1
fcs1	U78A5.001.WIH074C-P1-C6-T2
vt0	U7998.61X.10071FA-V1-C10
fscsi0	U78A5.001.WIH074C-P1-C6-T1
ent0	U78A5.001.WIH074C-P1-T6
fscsi1	U78A5.001.WIH074C-P1-C6-T2
ent1	U78A5.001.WIH074C-P1-T7
ent2	U7998.61X.10071FA-V1-C3-T1
ent3	U7998.61X.10071FA-V1-C4-T1

ent4 U7998.61X.10071FA-V1-C5-T1
ent5 U7998.61X.10071FA-V1-C6-T1
sas0 U78A5.001.WIH074C-P1-T5

Physical Volumes:

=====

Name	Phys Loc
----	-----
hdisk0	U78A5.001.WIH074C-P1-D1
hdisk1	U78A5.001.WIH074C-P1-C6-T1-W500507630608059A-L4000402D00000000
hdisk2	U78A5.001.WIH074C-P1-C6-T1-W500507630608059A-L4000404B00000000
hdisk3	U78A5.001.WIH074C-P1-C6-T1-W500507630608059A-L4001404B00000000
hdisk4	U78A5.001.WIH074C-P1-C6-T1-W500507630608059A-L4001404C00000000
hdisk5	U78A5.001.WIH074C-P1-C6-T1-W500507630608059A-L4000408000000000
hdisk6	U78A5.001.WIH074C-P1-C6-T1-W500507630608059A-L4001408000000000

Optical Devices:

=====

Name	Phys Loc
------	----------

---- -----

cd0

Tape Devices:

=====

Name Phys Loc

---- -----

Ethernet Interfaces:

=====

Name

en0

en1

en2

en3

en4

en5

en6

Storage Pools:

=====

SP Name	PV Name
---------	---------

-----	-----
-------	-------

rootvg	hdisk0
--------	--------

Shared Ethernet Adapters:

=====

Name	Physical Adapter	Default Adapter	Virtual Adapters
------	------------------	-----------------	------------------

---	-----	-----	-----
-----	-------	-------	-------

ent6	ent0	ent2	ent2
------	------	------	------

Virtual Server Adapters:

=====

SVSA	Phys Loc	VTD
------	----------	-----

---	-----	---
-----	-------	-----

vhost0 U7998.61X.10071FA-V1-C11 vtscsi2

vtscsi1

vtscsi0

The `-mapping` flag provided me with VTD and SEA mappings (same as `lsmmap -all` and `lsmmap -all -net`)

```
$ viosbr -view -file /tmp/bvio83_vios_config_bkp.tar.gz -mapping
```

SVSA	Physloc	Client Partition ID
------	---------	---------------------

vhost0	U7998.61X.10071FA-V1-C11	0x00000003
--------	--------------------------	------------

VTD	vtscsi0
-----	---------

Status	Available
--------	-----------

LUN	0x8200000000000000
-----	--------------------

Backing Device	hdisk1
----------------	--------

Physloc	U78A5.001.WIH074C-P1-C6-T1-W500507630608059A-L4000402D00000000
---------	--

SVSA	Physloc	Client Partition ID
------	---------	---------------------

vhost0 U7998.61X.10071FA-V1-C11 0x00000003

VTD vtscsi1

Status Available

LUN 0x8400000000000000

Backing Device hdisk2

Physloc U78A5.001.WIH074C-P1-C6-T1-W500507630608059A-L4000404B00000000

SVSA Physloc Client Partition ID

vhost0 U7998.61X.10071FA-V1-C11 0x00000003

VTD vtscsi2

Status Available

LUN 0x8100000000000000

Backing Device hdisk5

Physloc U78A5.001.WIH074C-P1-C6-T1-W500507630608059A-L4000408000000000

SVEA Physloc

ent2 U7998.61X.10071FA-V1-C3-T1

VTD ent6

Status Available

Backing Device ent0

Physloc U78A5.001.WIH074C-P1-T6

The -detail flag provided extended configuration information.

\$ viosbr -view -file /tmp/bvio83_vios_config_bkp.tar.gz -detail

Controllers:

=====

Name Phys Loc

---- -

iscsi0

Attribute Name Attribute Value

initiator_name iqn.bvio83.hostid.0a03496c

sissas0 U78A5.001.WIH074C-P1-T5

Attribute Name Attribute Value

bus_io_addr 0x80000000

intr_lsi 289

dual_init_cfg default

serial_number YL3000000001

pager0 U7998.61X.10071FA-V1-C7-L0-L0

vasi0 U7998.61X.10071FA-V1-C7

usbhc0 U78A5.001.WIH074C-P1

..etc..

The `-type` flag allows you to select details for a particular type of device for example, just SEA configuration information.

```
$ viosbr -view -file /tmp/bvio83_vios_config_bkp.tar.gz -type sea
```

Shared Ethernet Adapters:

```
=====
```

Name	Physical Adapter	Default Adapter	Virtual Adapters
ent6	ent0	ent2	ent2

```
$ viosbr -view -file /tmp/bvio83_vios_config_bkp.tar.gz -type svsa
```

Virtual Server Adapters:

```
=====
```

SVSA	Phys Loc	VTD
vhost0	U7998.61X.10071FA-V1-C11	vtscsi2
		vtscsi1

vtscsi0

Listing PV only information.

```
$ viosbr -view -file /tmp/bvio83_vios_config_bkp.tar.gz -type pv
```

Physical Volumes:

=====

Name	Phys Loc
------	----------

hdisk0	U78A5.001.WIH074C-P1-D1
hdisk1	U78A5.001.WIH074C-P1-C6-T1-W500507630608059A-L4000402D00000000
hdisk2	U78A5.001.WIH074C-P1-C6-T1-W500507630608059A-L4000404B00000000
hdisk3	U78A5.001.WIH074C-P1-C6-T1-W500507630608059A-L4001404B00000000
hdisk4	U78A5.001.WIH074C-P1-C6-T1-W500507630608059A-L4001404C00000000
hdisk5	U78A5.001.WIH074C-P1-C6-T1-W500507630608059A-L4000408000000000
hdisk6	U78A5.001.WIH074C-P1-C6-T1-W500507630608059A-L4001408000000000

The `--restore` and `--validate` flags validate the devices on the server against the devices in the backup file.

```
$ viosbr -restore -file bvio83_vios_config_bkp.tar.gz -validate
```

Dev name during BACKUP	Is Valid?	Is Deployable?
=====	=====	=====
iscsi0	YES	NO
sissas0	YES	NO
pager0	YES	NO
vasi0	YES	NO
usbhc0	YES	NO
usbhc1	YES	NO
vbsd0	YES	NO
usbhc2	YES	NO
sata0	YES	NO
lhea0	YES	NO
ibmvmc0	YES	NO
ati0	YES	NO
fcs0	YES	NO
fcs1	YES	NO
vts0	YES	NO

fscsi0	YES	NO
ent0	YES	NO
fscsi1	YES	NO
ent1	YES	NO
ent2	YES	NO
ent3	YES	NO
ent4	YES	NO
ent5	YES	NO
sas0	YES	NO
hdisk0	YES	NO
hdisk1	YES	NO
hdisk2	YES	NO
hdisk3	YES	NO
hdisk4	YES	NO
hdisk5	YES	NO
hdisk6	YES	NO
en6	YES	NO
ent6	YES	NO
rootvg	YES	NO

vhost0

YES

YES

This tool looks like a great way to backup and restore your VIOS configuration.

Of course backupios will also do this but it will take an image of the entire system not just the virtual and logical mappings.

Maybe we could automate the configuration of a VIOS using this tool.

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