

After reading this <https://worthdoingbadly.com/aixqemu> and this <https://lists.gnu.org/archive/html/qemu-ppc/2018-05/msg00387.html>, I was inspired and very curious. Could I get AIX 7.2 running on QEMU on my MacBook Pro (running Mac OS X 10.13.6)?

Well, the answer my friends, is yes...sort of.

Many thanks to Rob McNelly who originally tweeted this link, <https://worthdoingbadly.com/aixqemu>. If he had not, I would never have made the journey to QEMU land. So thanks Rob!

Also, thanks to Liang Guo for his assistance. Your guidance was greatly appreciated.

**Note: What I describe here is NOT supported by IBM. It is purely a lab experiment to see what was possible with qemu-system-ppc64.**

If you want to follow along at home, please follow and test the steps outlined here, <https://worthdoingbadly.com/aixqemu>, first. If this works then you should be good to go with the rest of this article.

I've never used QEMU until now. So all of this is very new to me. I'm still learning, so if you see something wrong with my instructions. Sorry. I'll do better next time.



The first thing you need to do, is install AIX 7.2 in a Logical Partition (LPAR VM), on a Power system, somewhere. If you don't have an IBM Power System of your own, you could try using the [https://www.ibm.com/partnerworld/page/stg\\_com\\_sys\\_power-development-platform](https://www.ibm.com/partnerworld/page/stg_com_sys_power-development-platform). I recommend using **AIX 7.2 TL3 SP1** for this experiment. My source LPAR was running 7200-03-01 on POWER8. Once you have an AIX system that you can use, follow each of the steps outlined below.

### 1. Create mksysb image of the source AIX system.

```
AIXlpar# mksysb -i /nim/mksysb/AIXhost-mksysb
Creating information file (/image.data) for rootvg.
Creating list of files to back up.
Backing up 93071 files.....
93071 of 93071 files (100%)
0512-038 mksysb: Backup Completed Successfully.
```

## 2. Create ISO image from the mksysb image created in step 1.

```
AIXlpar# mkdvd -S -I /nim/mksysb -m /nim/mksysb/AIXlpar-mksysb
Initializing mkdvd log: /var/adm/ras/mkcd.log...
Verifying command parameters...
Creating temporary file system: /mkcd/cd_fs...
Populating the CD or DVD file system...
Building chrp boot image...
Copying backup to the CD or DVD file system...
..
Creating Rock Ridge format image: /nim/mksysb/cd_image_20119974
Running mkisofs ...
.
mkrr_fs was successful.

Making the CD or DVD image bootable...

Removing temporary file system: /mkcd/cd_fs...
#
```

```
# ls -ltr
total 43709952
-rw-r--r-- 1 root system 2905600000 Oct 08 08:38 AIXlpar-mksysb
-rw-r--r-- 1 root system 3022819328 Oct 08 08:41 cd_image_20119974
# mv cd_image_20119974 AIX72.iso
# ls -ltr
total 43709952
-rw-r--r-- 1 root system 2905600000 Oct 08 08:38 AIXlpar-mksysb
-rw-r--r-- 1 root system 3022819328 Oct 08 08:41 AIX72.iso
```

## 3. Copy the ISO image to your MacBook.

```
$ scp AIXlpar:/nim/mksysb/AIX72.iso .
```

## 4. Assuming that QEMU is installed on your Mac, create a qcow2 disk image. Now you have two files, 1) AIX72.iso (which is the mksysb ISO of your AIX VM from your Power system) and 2) AIX72.img, which will be used to install (restore) the mksysb ISO image in the QEMU environment; this is your install hdisk device for rootvg.

```
$ qemu-img create -f qcow2 AIX72.img 100G
Formatting 'AIX72.img', fmt=qcow2 size=107374182400 cluster_size=65536
lazy_refcounts=off refcount_bits=16

$ qemu-img info AIX72.img
image: AIX72.img
file format: qcow2
virtual size: 100G (107374182400 bytes)
disk size: 196K
cluster_size: 65536
Format specific information:
  compat: 1.1
  lazy_refcounts: false
  refcount_bits: 16
  corrupt: false
```

## 5. Boot from the ISO image (AIX72.iso) and install AIX into the QEMU disk image (AIX72.img). The 'boot cdrom: -s verbose' option, will start the VM and boot from the virtual CD device (in this case the ISO image we created). The verbose option is really only required if you are curious as to what is happening during the boot and installation steps. **BE PATIENT!** It will take several mintues for the VM to boot.

**Note:** There is a lot of output when verbose boot is enabled. I have trimmed the output shown (in this article) to make it easier to read.

Once the BOS installation menu appears, you can *“follow the bouncing ball”* and complete the mksysb restore to hdisk0. If you’ve ever installed AIX in the past, you’ll be very familiar with this process.

```
$ qemu-system-ppc64 -cpu POWER9 -machine pseries -m 2048 -serial mon:stdio \  
-drive file=AIX72.img,if=none,id=drive-virtio-disk0 \  
-device virtio-scsi-pci,id=scsi -device scsi-hd,drive=drive-virtio-disk0 \  
-cdrom AIX72.iso \  
-prom-env boot-command='boot cdrom: -s verbose'
```

```
SLOF *****  
QEMU Starting  
Build Date = Jun 21 2018 19:08:08  
FW Version = git-7d37babcf48a6eb  
Press "s" to enter Open Firmware.
```

```
Populating /vdevice methods  
Populating /vdevice/vty@71000000  
Populating /vdevice/nvram@71000001  
Populating /vdevice/l-lan@71000002  
Populating /vdevice/v-scsi@71000003  
SCSI: Looking for devices  
8200000000000000 CD-ROM : "QEMU QEMU CD-ROM 2.5+"  
Populating /pci@8000000200000000  
00 0000 (D) : 1234 1111 qemu vga  
00 0800 (D) : 1033 0194 serial bus [ usb-xhci ]  
00 1000 (D) : 1af4 1004 virtio [ scsi ]
```

```
Populating /pci@8000000200000000/scsi@2  
SCSI: Looking for devices  
1000000000000000 DISK : "QEMU QEMU HARDDISK 2.5+"
```

```
Installing QEMU fb
```

```
Scanning USB  
XHCI: Initializing  
USB Keyboard  
USB mouse  
No console specified using screen & keyboard
```

```
Welcome to Open Firmware
```

```
Copyright (c) 2004, 2017 IBM Corporation All rights reserved.  
This program and the accompanying materials are made available  
under the terms of the BSD License available at  
http://www.opensource.org/licenses/bsd-license.php
```

```
Trying to load: -s verbose from: /vdevice/v-scsi@71000003/disk@8200000000000000:  
... Successfully loaded
```

```
AIX  
...etc...  
AIX Version 7.2  
exec(/etc/init){1,0}  
  
INIT: EXECUTING /sbin/rc.boot 1  
exec(/usr/bin/sh,-c,/sbin/rc.boot 1){917792,1}  
exec(/sbin/rc.boot,/sbin/rc.boot,1){917792,1}  
+ PHASE=1  
+ + bootinfo -p  
exec(/usr/sbin/bootinfo,-p){983330,917792}
```

PLATFORM=chrp

...

-----

Time: 0 LEDS: 0x538

Invoking top level program -- "/usr/lib/methods/cfgrule\_vrtcore"

exec(/bin/sh,-c,/usr/lib/methods/cfgrule\_vrtcore ){1048868,983342}

exec(/usr/lib/methods/cfgrule\_vrtcore){1048868,983342}

....etc...

**\*\*\*\*\* Please define the System Console. \*\*\*\*\***

**Type a 1 and press Enter to use this terminal as the system console.**

...etc...

>>> 1 Type 1 and press Enter to have English during install.

...etc...

>>> Choice [1]:1

Error Warning << Note: You can ignore this warning message...

**An invalid disk (42-T1-01) was specified in the location field of the data file.**

To reboot the system, press reset.

>>> 1 Continue with Install

...etc...

>>> Choice [1]: 1

**Welcome to Base Operating System  
Installation and Maintenance**

Type the number of your choice and press Enter. Choice is indicated by >>>.

>>> 1 Start Install Now with Default Settings

**2 Change/Show Installation Settings and Install**

3 Start Maintenance Mode for System Recovery

4 Make Additional Disks Available

5 Select Storage Adapters

88 Help ?

99 Previous Menu

>>> Choice [1]:2

**System Backup Installation and Settings**

Either type 0 and press Enter to install with the current settings, or type the number of the setting you want to change and press Enter.

Setting:

Current Choice(s):

**1 Disk(s) where you want to install ..... hdisk0**

Use Maps..... No

2 Shrink File Systems..... No

3 Import User Volume Groups..... No

4 Recover Devices..... No

>>> 0 Install with the settings listed above.

```

      88 Help ?          | -----
      99 Previous Menu | WARNING: Base Operating System Installation will
                        | destroy or impair recovery of ALL data on the
                        | destination disk hdisk0.
>>> Choice [0]: 0

```

**6. With AIX installed, boot from the ISO image again ('boot cdrom:'), enter maintenance mode and edit the /sbin/helpers/jfs2/fsck64 file. You'll need to replace the command with a script that simply exits with a zero return code. When you are done, run 'sync;sync' and halt the VM.**

```

$ qemu-system-ppc64 -cpu POWER9 -machine pseries -m 2048 -serial mon:stdio \
-drive file=AIX72.img,if=none,id=drive-virtio-disk0 \
-device virtio-scsi-pci,id=scsi -device scsi-hd,drive=drive-virtio-disk0 \
-cdrom AIX72.iso \
-prom-env boot-command='boot cdrom:'
...etc...

```

```

                Welcome to Base Operating System
                Installation and Maintenance

```

Type the number of your choice and press Enter. Choice is indicated by >>>.

```

>>> 1 Start Install Now with Default Settings
      2 Change/Show Installation Settings and Install
      3 Start Maintenance Mode for System Recovery
      4 Make Additional Disks Available
      5 Select Storage Adapters

      88 Help ?
      99 Previous Menu

```

```
>>> Choice [1]:3
```

```
                Maintenance

```

Type the number of your choice and press Enter.

```

>>> 1 Access a Root Volume Group
      2 Copy a System Dump to Removable Media
      3 Access Advanced Maintenance Functions
      4 Erase Disks
      5 Configure Network Disks (iSCSI)
      6 Select Storage Adapters
      7 Install from a System Backup

```

```
>>> Choice [1]: 1
```

```
                Warning:

```

If you choose to access a root volume group, you will not be able to return to the Base Operating System Installation menus without rebooting.



**7. Boot from the disk image (AIX72.img, 'boot disk:'). Don't used the verbose option (unless you need to). This will boot the VM directly from your AIX hdisk device (AIX72.img). BE PATIENT!**

```
$ qemu-system-ppc64 -cpu POWER9 -machine pseries -m 2048 -serial mon:stdio \  
-drive file=aix72.img,if=none,id=drive-virtio-disk0 \  
-device virtio-scsi-pci,id=scsi -device scsi-hd,drive=drive-virtio-disk0 \  
-cdrom aix72.iso \  
-prom-env boot-command='boot disk:'
```

```
SLOF *****
```

```
QEMU Starting  
Build Date = Jun 21 2018 19:08:08  
FW Version = git-7d37babcf48a6eb  
Press "s" to enter Open Firmware.
```

```
Populating /vdevice methods  
Populating /vdevice/vty@71000000  
Populating /vdevice/nvram@71000001  
Populating /vdevice/l-lan@71000002  
Populating /vdevice/v-scsi@71000003  
SCSI: Looking for devices  
8200000000000000 CD-ROM : "QEMU QEMU CD-ROM 2.5+"  
Populating /pci@8000000200000000  
00 0000 (D) : 1234 1111 qemu vga  
00 0800 (D) : 1033 0194 serial bus [ usb-xhci ]  
00 1000 (D) : 1af4 1004 virtio [ scsi ]
```

```
Populating /pci@8000000200000000/scsi@2  
SCSI: Looking for devices  
1000000000000000 DISK : "QEMU QEMU HARDDISK 2.5+"
```

```
...etc...
```

```
Trying to load: from: /pci@8000000200000000/scsi@2/disk@1000000000000000: ...  
Successfully loaded
```

```
....etc...
```

```
Saving Base Customize Data to boot disk  
Starting the sync daemon  
Starting the error daemon
```

```
System initialization completed.
```

```
TE=OFF  
CHKEXEC=OFF  
CHKSHLIB=OFF  
CHKSCRIPT=OFF  
CHKKERNEXT=OFF  
STOP_UNTRUSTD=OFF  
STOP_ON_CHKFAIL=OFF  
LOCK_KERN_POLICIES=OFF  
TSD_FILES_LOCK=OFF  
TSD_LOCK=OFF  
TEP=OFF  
TLP=OFF  
Successfully updated the Kernel Authorization Table.  
Successfully updated the Kernel Role Table.  
Successfully updated the Kernel Command Table.  
Successfully updated the Kernel Device Table.  
Successfully updated the Kernel Object Domain Table.  
Successfully updated the Kernel Domains Table.  
Successfully updated the Kernel RBAC log level.  
Successfully updated the Kernel RBAC log level.  
OPERATIONAL MODE Security Flags  
ROOT : ENABLED  
TRACEAUTH : DISABLED  
System runtime mode is now OPERATIONAL MODE.  
Setting tunable parameters...  
Starting Multi-user Initialization
```

```
Performing auto-varyon of Volume Groups
Activating all paging spaces
0517-075 swapon: Paging device /dev/hd6 is already active.
Performing all automatic mounts
Multi-user initialization completed
...etc...
```

```
AIX Version 7
Copyright IBM Corporation, 1982, 2018.
Console login:
```

## 8. AIX will eventually boot to a login prompt (console tty).

```
AIX Version 7
Copyright IBM Corporation, 1982, 2018.
Console login:
```

## 9. At this point you should be able to login to the VM.

```
AIX Version 7
Copyright IBM Corporation, 1982, 2018.
Console login: root
root's Password:
*****
*                                                                 *
*                                                                 *
* Welcome to AIX Version 7.2!                                   *
*                                                                 *
*                                                                 *
* Please see the README file in /usr/lpp/bos for information pertinent to
* this release of the AIX Operating System.                    *
*                                                                 *
*                                                                 *
*****
Last unsuccessful login: Wed Oct  3 18:38:16 AEST 2018 on /dev/vty0 from localhost
Last login: Fri Oct  5 13:35:42 AEST 2018 on /dev/vty0

#
# chdev -l inet0 -a hostname=aix_on_mac
```

## 10. I had to remove/disable a bunch of services, to make the VM usable.

```
# rmitab mbverify
# rmitab phauiserver
# rmitab pfcdaemon
# rmitab diagd
# rmitab artex
# rmitab clcomd
# rmitab xmdaily
# rmitab nim
# rmitab cron
# rmitab rcnfs
# rmitab writesrv
# rmitab qdaemon
# rmitab wparpcmsrv
# rmitab aso
# rmitab naudio2

# chrctcp -S -d tftpd

# lsitab -a
init:2:initdefault:
brc:::sysinit:/sbin/rc.boot 3 >/dev/console 2>&1 # Phase 3 of system boot
```



```

powerfail::powerfail:/etc/rc.powerfail 2>&1 | /usr/bin/alog -tboot > /dev/console #
Power Failure Detection
tunables:23456789:wait:/usr/sbin/tunrestore -R > /dev/console 2>&1 # Set tunables
securityboot:2:bootwait:/etc/rc.security.boot > /dev/console 2>&1
rc:23456789:wait:/etc/rc 2>&1 | /usr/bin/alog -tboot > /dev/console # Multi-User
checks
srcmstr:23456789:respawn:/usr/sbin/srcmstr # System Resource Controller
rctcpip:23456789:wait:/etc/rc.tcpip > /dev/console 2>&1 # Start TCP/IP daemons
rctmiscsi:23456789:wait:/etc/rc.tmiscsi > /dev/console 2>&1
rckrb5:2:wait:/etc/rc.krb5 > /dev/console 2>&1
fbcheck:23456789:wait:/usr/sbin/fbcheck 2>&1 | /usr/bin/alog -tboot > /dev/console
# run /etc/firstboot
clusterconf:23456789:once:/usr/sbin/clusterconf
piobe:2:wait:/usr/lib/lpd/pioinit_cp >/dev/null 2>&1 # pb cleanup
cons:0123456789:respawn:/usr/sbin/getty /dev/console
uprintfd:23456789:respawn:/usr/sbin/uprintfd
shdaemon:2:off:/usr/sbin/shdaemon >/dev/console 2>&1 # High availability daemon
trustedboot:2:wait:/etc/rc.trustedboot > /dev/console 2>&1 # Get trusted log and
start TCSD
12:2:wait:/etc/rc.d/rc 2
13:3:wait:/etc/rc.d/rc 3
14:4:wait:/etc/rc.d/rc 4
15:5:wait:/etc/rc.d/rc 5
16:6:wait:/etc/rc.d/rc 6
17:7:wait:/etc/rc.d/rc 7
18:8:wait:/etc/rc.d/rc 8
19:9:wait:/etc/rc.d/rc 9
rcwpars:2:once:/etc/rc.wpars > /dev/console 2>&1 # Corrals autostart
logsymp:2:once:/usr/lib/ras/logsymptom # for system dumps
perfstat:2:once:/usr/lib/perf/libperfstat_updt_dictionary >/dev/console 2>&1
ha_star:h2:off:/etc/rc.ha_star >/dev/console 2>&1
pmperfrec:2:once:/var/perf/pm/bin/config_pm_ext.sh -P yes
ctrmc:2:once:/usr/bin/startsrc -s ctrmc > /var/ct/ctrmc-inittab.err 2>&1

aix_on_mac:/ # lssrc -a | grep active
clcomd          caa          3604796      active
sshd            ssh          4850090      active
ctrmc           rsct         5177646      active
pmperfrec      pmperfrec   4653482      active
IBM.HostRM     rsct_rm     5767458      active
IBM.ConfigRM   rsct_rm     5243314      active
IBM.DRM        rsct_rm     5374386      active
IBM.MgmtDomainRM rsct_rm     4063670      active
IBM.ServiceRM  rsct_rm     5439970      active

```

At this point, you now have an AIX VM running on QEMU. You can now enter familiar AIX commands and explore the environment.

```

aix_on_mac:/ # oslevel -s
7200-03-01-1838

```

```

aix_on_mac:/ # uname -L
0 aix_on_kvm

```

```

aix_on_mac:/ # lparstat -i
Node Name           : aix_on_mac
Partition Name      : aix_on_kvm
Partition Number    : 0
Type                : Shared
Mode                : Capped
Entitled Capacity   : 1.00
Partition Group-ID  : 1
Shared Pool ID      : 1
Online Virtual CPUs : 1
Maximum Virtual CPUs : 1
Minimum Virtual CPUs : 1
Online Memory       : 2048 MB

```

```

Maximum Memory                : 2048 MB
Minimum Memory                : 2048 MB
Variable Capacity Weight     : 128
Minimum Capacity             : 1.00
Maximum Capacity             : 1.00
Capacity Increment           : 1.00
Maximum Physical CPUs in system : 1
Active Physical CPUs in system : 1
Active CPUs in Pool          : 1
Shared Physical CPUs in system : -
Maximum Capacity of Pool     : -
Entitled Capacity of Pool    : -
Unallocated Capacity         : 0.00
Physical CPU Percentage       : 100.00%
Unallocated Weight           : 0
Memory Mode                   : Dedicated
Total I/O Memory Entitlement  : -
Variable Memory Capacity Weight : -
Memory Pool ID                : -
Physical Memory in the Pool   : -
Hypervisor Page Size         : -
Unallocated Variable Memory Capacity Weight : -
Unallocated I/O Memory entitlement : -
Memory Group ID of LPAR      : -
Desired Virtual CPUs         : 1
Desired Memory                : 2048 MB
Desired Variable Capacity Weight : 128
Desired Capacity             : 1.00
Target Memory Expansion Factor : -
Target Memory Expansion Size  : -
Power Saving Mode            : -
Sub Processor Mode           : -

```

```

aix_on_mac:/ # prtconf
System Model: IBM pSeries (emulated by qemu)
Machine Serial Number: Not Available
Processor Type: PowerPC_POWER9
Processor Implementation Mode: POWER 9
Processor Version: PV_9_Compact
Number Of Processors: 1
Processor Clock Speed: 1000 MHz
CPU Type: 64-bit
Kernel Type: 64-bit
LPAR Info: 0 aix_on_kvm
Memory Size: 2048 MB
Good Memory Size: 2048 MB
Platform Firmware level: Not Available
Firmware Version: SLOF,aik
Console Login: enable
Auto Restart: true
Full Core: false
NX Crypto Acceleration: Not Capable

```

```

Network Information
  Host Name: aix_on_mac
  IP Address: 10.1.1.10
  Sub Netmask: 255.255.255.0
  Gateway:
  Name Server:
  Domain Name:

```

```

Paging Space Information
  Total Paging Space: 512MB
  Percent Used: 1%

```

```

Volume Groups Information
=====
Active VGs

```

```

=====
rootvg:
PV_NAME          PV STATE          TOTAL PPs   FREE PPs   FREE DISTRIBUTION
hdisk0           active            799         710         159..146..85..160..160
=====

```

INSTALLED RESOURCE LIST

The following resources are installed on the machine.

+/- = Added or deleted from Resource List.

\* = Diagnostic support not available.

Model Architecture: chrp  
Model Implementation: Uni-Processor, PCI bus

```

+ sys0                               System Object
+ sysplanar0                         System Planar
* vio0                               Virtual I/O Bus
* vscsi0                             Virtual SCSI Client
Adapter
* cd0                               Virtual SCSI Optical
Served by VIO Server
* ent0                               Virtual I/O Ethernet
Adapter (l-lan)
* vsa0                               LPAR Virtual Serial
Adapter
* vty0                               Asynchronous Terminal
* pci0                               PCI Bus
* scsi0                             qemu_virtio-scsi-pci:0000:00:02.0 Virtio SCSI Client
Adapter (f41a0800)
* hdisk0                             qemu_virtio-scsi-pci:0000:00:02.0-LW_0 MPIO Other Virtio SCSI
Disk Drive
+ L2cache0                           L2 Cache
+ mem0                               Memory
+ proc0                              Processor

```

```

aix_on_mac:/ # df
Filesystem      512-blocks      Free %Used    Iused %Iused  Mounted on
/dev/hd4        2883584        2328520   20%    15047    6% /
/dev/hd2        6291456        1794272   72%    57149   22% /usr
/dev/hd9var     2621440        1686568   36%     4234    3% /var
/dev/hd3        4456448        4182992    7%     1083    1% /tmp
/dev/hd1        262144         260680    1%        21    1% /home
/dev/hd11admin  262144         261416    1%         5    1% /admin
/proc           -              -          -         -      - /proc
/dev/hd10opt    2359296        807288   66%   12416   13% /opt
/dev/livedump   524288         523552    1%         4    1% /var/adm/ras/livedump

```

```

aix_on_mac:/ # lsvg
rootvg

```

```

aix_on_mac:/ # lspv
hdisk0          00000000344f6122          rootvg          active

```

```

aix_on_mac:/ # lsvg -l rootvg
rootvg:
LV NAME          TYPE          LPs      PPs      PVs  LV STATE      MOUNT POINT
hd5             boot          1         1         1   closed/syncd  N/A
hd6             paging        4         4         1   open/syncd    N/A
hd8             jfs2log       1         1         1   open/syncd    N/A
hd4             jfs2          11        11        1   open/syncd    /
hd2             jfs2          24        24        1   open/syncd    /usr
hd9var          jfs2          10        10        1   open/syncd    /var
hd3             jfs2          17        17        1   open/syncd    /tmp
hd1             jfs2          1         1         1   open/syncd    /home
hd10opt         jfs2          9         9         1   open/syncd    /opt
hd11admin       jfs2          1         1         1   open/syncd    /admin
lg_dumplv      sysdump       8         8         1   open/syncd    N/A

```

```
livedump          jfs2          2          2          1          open/syncd
/var/adm/ras/livedump
```

```
aix_on_mac:/ # lscfg -vp
INSTALLED RESOURCE LIST WITH VPD
```

The following resources are installed on your machine.

```
Model Architecture: chrp
Model Implementation: Uni-Processor, PCI bus
```

```
sys0                      System Object
sysplanar0                System Planar
vio0                      Virtual I/O Bus
vscsi0                   Virtual SCSI Client
Adapter
cd0                      Virtual SCSI Optical
Served by VIO Server
ent0                      Virtual I/O Ethernet
Adapter (l-lan)
```

```
Network Address.....525400123456
Displayable Message.....Virtual I/O Ethernet Adapter (l-lan)
```

```
vsa0                      LPAR Virtual Serial
Adapter
vty0                      Asynchronous Terminal
pci0                      PCI Bus
scsi0                    qemu_virtio-scsi-pci:0000:00:02.0  Virtio SCSI Client
Adapter (f41a0800)
```

```
Hardware Location Code.....qemu_virtio-scsi-pci:0000:00:02.0
```

```
hdisk0                    qemu_virtio-scsi-pci:0000:00:02.0-LW_0  MPIO Other Virtio SCSI
Disk Drive
```

```
Manufacturer.....QEMU
Machine Type and Model.....QEMU HARDDISK
Part Number.....
ROS Level and ID.....322E352B
Serial Number.....
EC Level.....
FRU Number.....
Device Specific.(Z0).....00000512FA000012
Device Specific.(Z1).....
Device Specific.(Z2).....
Device Specific.(Z3).....
Device Specific.(Z4).....
Device Specific.(Z5).....
Device Specific.(Z6).....
```

```
L2cache0                 L2 Cache
mem0                     Memory
proc0                    Processor
```

PLATFORM SPECIFIC

```
Name: /
Model: IBM pSeries (emulated by qemu)
Node: /
Device Type: chrp
```

```
Name: openprom
Model: SLOF,aik
Node: openprom
```

```
Name: vga
Node: vga@0
```

Device Type: display  
Physical Location: qemu\_VGA:0000:00:00.0

Name: usb  
Node: usb@1  
Device Type: xhci  
Physical Location: qemu\_nec-usb-xhci:0000:00:01.0

Name: scsi  
Node: scsi@2  
Physical Location: qemu\_virtio-scsi-pci:0000:00:02.0  
aix\_on\_mac:/ #

aix\_on\_mac:/opt/freeware/packages # date  
Mon Oct 8 10:56:55 AEDT 2018

aix\_on\_mac:/ # uptime  
10:57AM up 24 mins, 1 user, load average: 1.72, 1.76, 1.54

aix\_on\_mac:/ # nmon

```
-----  
N N M M OOOO N N For online help type: h  
NN N MM MM O O NN N For command line option help:  
N N N M MM M O O N N N quick-hint nmon -?  
N N N M M O O N N N full-details nmon -h  
N NN M M O O N NN To start nmon the same way every time?  
N N M M OOOO N N set NMON ksh variable, for example:  
export NMON=cmt  
-----  
TOPAS_NMON  
1 - CPU currently  
1 - CPU configured  
1000 - MHz CPU clock rate  
PowerPC_POWER9 - Processor  
64 bit - Hardware  
64 bit - Kernel  
0,aix_on_kvm - Logical Partition  
7.2.3.1 TL03 - AIX Kernel Version  
aix_on_mac - Hostname  
aix_on_mac - Node/WPAR Name  
000000 - Serial Number  
IBM pSeries (emulated by qemu) - Machine Type
```

aix\_on\_mac:/ # topas

```
Topas Monitor for host:aix_on_mac  
Mon Oct 8 11:00:58 2018 Interval:2  
747  
CPU User% Kern% Wait% Idle% Phyc Entc%  
Total 0.4 8.2 0.0 91.4 1.00 100.20  
12twork BPS I-Pkts O-Pkts B-In B-Out  
Total 0 0 0 0 0  
Disk Busy% BPS TPS B-Read B-Writ  
Total 0.0 0 0 0 0  
FileSystem BPS TPS B-Read B-Writ  
Total 0 0 0 0  
0ame PID CPU% PgSp Owner  
topas 5046588 1.7 1.79M root  
5il 721178 0.4 124K root  
3ock_rcv 2556252 0.4 60.0K root  
sec_rcv 2687318 0.3 60.0K root  
clcomd 4522472 0.2 1.69M root  
sendmail 3998082 0.1 1.16M root  
netm 655640 0.0 60.0K root  
vrtscsi_ 1311022 0.0 84.0K root  
vtiol 327950 0.0 64.0K root  
rmcd 4456908 0.0 11.9M root  
syncd 1835398 0.0 604K root  
ksh 3932560 0.0 588K root  
pilegc 459026 0.0 92.0K root  
init 1 0.0 772K root  
IBM.Mgmt 5374384 0.0 5.34M root  
EVENTS/QUEUES FILE/TTY  
Cswitch 78 Readch 0  
Syscall 98 Writech 219  
Reads 0 Rawin 0  
Writes 0 Ttyout 219  
Forks 0 Igets 0  
Execs 0 Namei 11  
Runqueue 2.00 Dirblk 0  
Waitqueue 0.0  
PAGING MEMORY  
Faults 0 % Comp 26  
Steals 0 % Noncomp 13  
PgspIn 0 % Client 13  
PgspOut 0  
PageIn 1 PAGING SPACE  
PageOut 0 Size,MB 512  
Sios 0 % Used 1  
% Free 99  
NFS (calls/sec)  
SerV2 0 WPAR Activ 0  
Cliv2 0 WPAR Total 0  
SerV3 0 Press: "h"-help  
Cliv3 0 "q"-quit  
SerV4 0  
Cliv4 0
```

```
lvmbb      1179946  0.0 60.0K root
j2gt       1245534  0.0 64.0K root
vmptacrt   196874   0.0 60.0K root
j2pg       1442098  0.0 196K root
j2sync     1507636  0.0 76.0K root
```

```
aix_on_mac:/cg # lsmpio
name      path_id  status  path_status  parent  connection
hdisk0    0        Enabled Sel          scsi0    0,0
```

```
aix_on_mac:/cg # lsmpio -q
Device      Vendor Id  Product Id      Size      Volume Name
-----
hdisk0      QEMU      QEMU HARDDISK  100.00GiB  -
```

```
aix_on_mac:/ # lspv -u
hdisk0      00000000344f6122      rootvg      active
33130drive-virtio-disk00DQEMU HARDDISK04QEMUvrtscsi 8eca6bf6-b924-
0872-c039-8cb2a62de21a
```

```
aix_on_mac:/ # lsdev -Cc adapter
ent0 Available Virtual I/O Ethernet Adapter (1-lan)
pkcs11 Available ACF/PKCS#11 Device
scsi0 Available 00-10 Virtio SCSI Client Adapter (f41a0800)
vsa0 Available LPAR Virtual Serial Adapter
vscsi0 Available Virtual SCSI Client Adapter
```

```
aix_on_mac:/ # lsdev -Cc disk
hdisk0 Available 00-10 MPIO Other Virtio SCSI Disk Drive
```

```
aix_on_mac:/ # lsps -a
Page Space  Physical Volume  Volume Group  Size %Used  Active  Auto  Type  Chksum
hd6         hdisk0          rootvg        512MB  1      yes   yes   lv    0
```

```
aix_on_mac:/ # smtctl
smtctl: SMT is not supported on this system.
```

```
aix_on_mac:/ # echo cvai | kdb -script
read vscsi_scsi_ptrs OK, ptr = 0x7449E90
(0)> cvai
Executing cvai command
NAME      STATE      CMDS_ACTIVE  ACTIVE_QUEUE  HOST
vscsi0   0x000007  0x0000000000  0x0          qemu->vscsi0
```

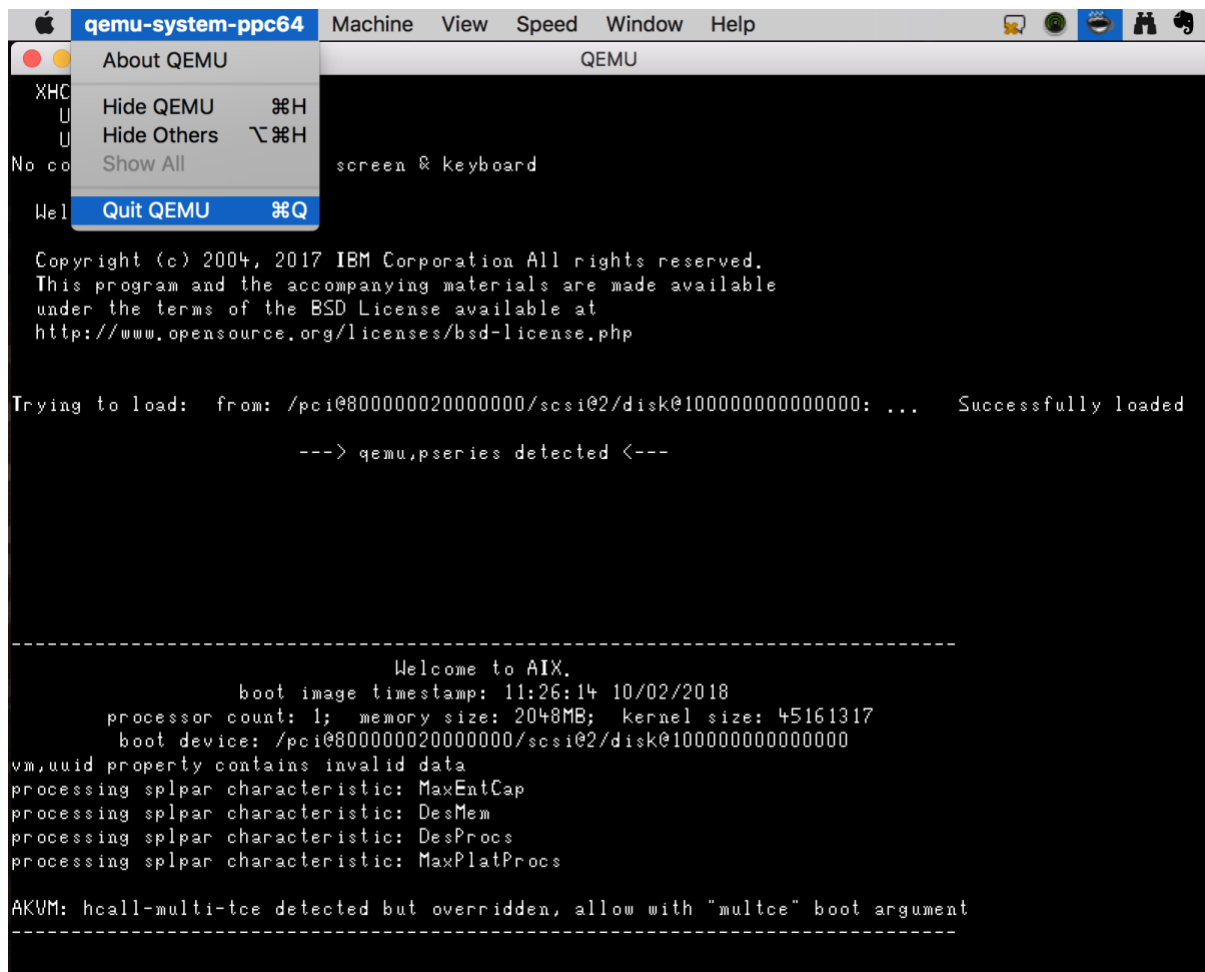
```
End of execution for cvai command
(0)> Executing q command
```

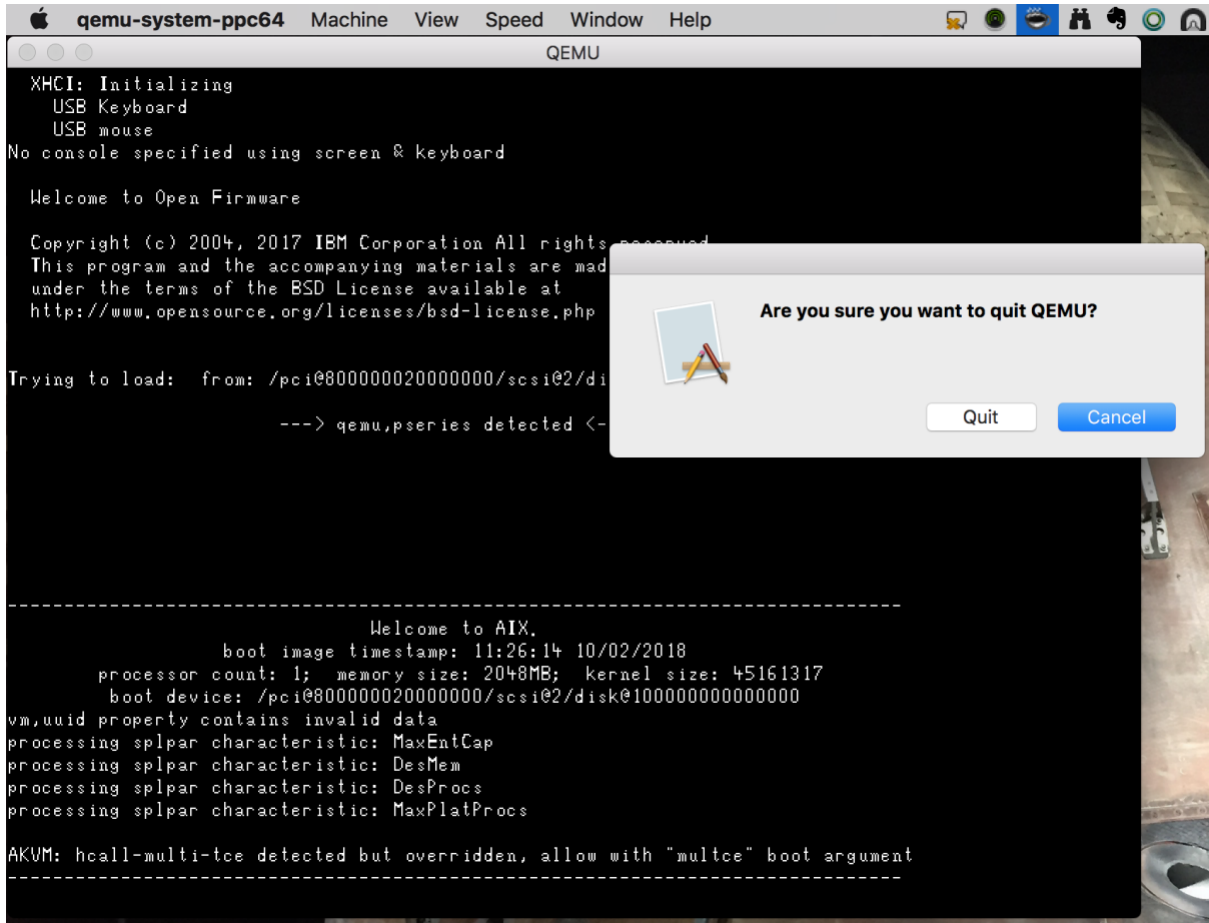
```
aix_on_mac:/ # lspath
Enabled hdisk0 scsi0
```

**Warning!** Some commands don't work!

```
aix_on_mac:/ # ps
Segmentation fault(coredump)
```

To stop the VM, you can either issue the 'halt' command from inside the AIX VM or select 'Quit' from the QEMU console menu (as shown below).







```
qemu-system-ppc64 Machine View Speed Window Help
QEMU
XHCI: Initializing
USB Keyboard
USB mouse
No console specified using screen & keyboard

Welcome to Open Firmware

Copyright (c) 2004, 2017 IBM Corporation All rights reserved.
This program and the accompanying materials are made available
under the terms of the BSD License available at
http://www.opensource.org/licenses/bsd-license.php

Trying to load: from: /pci@8000000020000000/scsi@2/disk@1000000000000000: ... Successfully loaded

---> qemu,pseries detected <---

-----
                          Welcome to AIX.
                          boot image timestamp: 11:26:14 10/02/2018
                          processor count: 1; memory size: 2048MB; kernel size: 45161317
                          boot device: /pci@8000000020000000/scsi@2/disk@1000000000000000
vm,uuid property contains invalid data
processing splpar characteristic: MaxEntCap
processing splpar characteristic: DesMem
processing splpar characteristic: DesProcs
processing splpar characteristic: MaxPlatProcs

AKVM: hcall-multi-tce detected but overridden, allow with "multce" boot argument
-----
```

In the next phase of my journey into “AIX on QEMU”, I plan to try and get networking up and running inside the AIX VM. I think this blog post might help... <https://blog.san-ss.com.ar/2016/04/setup-nat-network-for-qemu-macosx>