# HOWTO: Install Debian (Wheezy) on POWER Systems Server

Contributed by Michael Felt

As promised in my blog yesterday, I am writing this as a QD (quick and dirty, but more quick than dirty) writeup of what to do - and one thing NOT to do.

Updated with links for debian-7.2

A quick explanation of my hardware: Power5 (model P505, 1 CPU, 20G internal RAM, 2 internal disks (70G) and an NAS that presents iSCSI disks to the VIOS (IVM)). So, fairly basic stuff.

FYI: In the past Linux (2006) would only install when it was presented a whole disk. As I only had two disks this was too expensive in terms of resources (I was installing AIX on 4B logical partitions exported via vSCSI as hdisk0). And I waited for Debian to support basically anything I would throw at the partition as a disk - and this week all the pieces seem to fit!
EXTRA: Also tested on a friends Power7 (P710) using a logical partion exported as hdisk0!

Step 1: Get the iso image from debian.

mamfelt@x121:[/home/michael] wget http://cdimage.debian.org/debian-cd/current/powerpc/iso-dvd/debian-7.2.0-powerpc-DVD-1.iso /data/prj/debian
mamfelt@x121:[/home/michael] wget http://cdimage.debian.org/debian-cd/7.1.0/powerpc/iso-cd/debian-7.2.0-powerpc-netinst.iso /data/prj/debian

Step 2: Create - if not already present - a Virtual Repository on the VIOS

# as padmin, with /data/prj/debian already mounted (wget is not on VIOS image)
padmin@vios mkrep -sp rootvg -size 12G

Step 3: copy the downloaded .iso files into the repository so that they can be loaded onto a virtual optical drive

padmin@vios mkvopt -name debian_DVD1_710 -file /data/prj/debian-7.1.0-powerpc-DVD-1.iso -ro
padmin@vios mkvopt -name debian_netinst_710 -file /data/prj/debian-7.1.0-powerpc-netinst.iso -ro
padmin@vios lsrep
Size(mb) Free(mb) Parent Pool Parent Size Parent Free
12239 7928 rootvg 69888 32896

Name File Size Optical Access
debian_DVD1_710 3815 None ro
debian_netinst_710 258 None ro

Step 4: create a new parition without a disk

# done using IVM/HMC, no CLI commands to show here

Step 5: assign disk, create optical drive, and load optical drive

padmin@vios mkvdev -vdev hdiskX -vadapter vhostZ -dev lpZ_hd0

```
padmin@vios mkvdev -fbo -vadapter vhostZ
padmin@vios lsmap -vadapter vhost6
SVSA            Physloc                                     Client Partition ID
--------------- ------------------------------------------- ------------------
vhost6          U9115.505.062C0CA-V1-C23                    0x00000000


VTD                   vtopt2
Status                Available
LUN                   0x8100000000000000
Backing device
Physloc
Mirrored              N/A


VTD                   vtscsi3
Status                Available
LUN                   0x8200000000000000
Backing device        hdisk8
Physloc
Mirrored              false


padmin@vios loadopt -disk debian_netinst_710 -vtd vtopt2
padmin@vios lsrep
Size(mb) Free(mb) Parent Pool         Parent Size      Parent Free
12239     7928 rootvg                   69888            32896


Name                                        File Size Optical         Access
debian_DVD1_710                                  3815 None            ro
debian_netinst_710                                258 vtopt2          ro
```

Step 6: open console to new partition and activate partition

```
# using IVM, assuming parition id #6
padmin@vios mkvt -id 6
# using HMC - go through menu to partition
michael@hmc vtmenu
# use HMC/IVM to activate partition
```

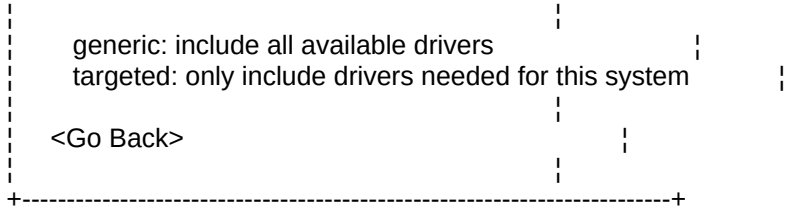
Step 7: using console interface boot from DVD, at boot prompt enter "expert"

# I expect you to be able to go through SMS menus to select boot device. I will have a film for this later.

Step 8: proceed with installation, using default answers until you are shown

VERY IMPORTANT - READ CAREFULLY !

```
+---------------------¦ [?] Install the base system +----------------------+
¦                                                                          ¦
¦ The primary function of an initrd is to allow the kernel to mount the    ¦
¦ root file system. It therefore needs to contain all drivers and          ¦
¦ supporting programs required to do that.                                 ¦
¦                                                                          ¦
¦ A generic initrd is much larger than a targeted one and may even be      ¦
¦ so large that some boot loaders are unable to load it but has the        ¦
¦ advantage that it can be used to boot the target system on almost any    ¦
¦ hardware. With the smaller targeted initrd there is a very small         ¦
¦ chance that not all needed drivers are included.                         ¦
¦                                                                          ¦
¦ Drivers to include in the initrd:                                        ¦
```




Be sure and choose "targeted" or you system will not boot. The initrd.img created for generic is too large for yaboot to load.

Step 9: proceed with defaults until system just before system reboots.

On VIOS unload the DVD
$ unloadopt -release -vtd vtopt2

Step 10: (re)Boot partition

In SMS menu you will probably need to establish the hdisk as bootable. As the system boots

press 5

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IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM

1 = SMS Menu 5 = Default Boot List
8 = Open Firmware Prompt 6 = Stored Boot List

If you have unloaded the DVD (Step 9) the system will boot from the hdisk after a short bit you will see:

Debian GNU/Linux 7 x034 hvc0
x034 login: