Xen setup on centos

Make sure to partition or create a drive with enough space. You can use LVM at install or later to do this.

For this example- create the virtual machines in the */vm* directory

*mkdir /vm*

|  |
| --- |
| [...]  title CentOS (2.6.18-8.1.4.el5xen)  root (hd0,0)  kernel /xen.gz-2.6.18-8.1.4.el5  module /vmlinuz-2.6.18-8.1.4.el5xen ro root=/dev/VolGroup00/LogVol00  module /initrd-2.6.18-8.1.4.el5xen.img  [...] |

to */boot/grub/menu.lst* then you should probably use

|  |
| --- |
| [...]  title CentOS (2.6.18-8.1.4.el5xen)  root (hd0,0)  kernel /boot/xen.gz-2.6.18-8.1.4.el5  module /boot/vmlinuz-2.6.18-8.1.4.el5xen ro root=/dev/VolGroup00/LogVol00  module /boot/initrd-2.6.18-8.1.4.el5xen.img  [...] |

**2 Installing Xen**

To install Xen, we simply run

*yum install kernel-xen xen*

*yum -y update*

This installs Xen and a Xen kernel on our CentOS system. Afterwards, we can find our new Xen kernel (*vmlinuz-2.6.18-8.1.4.el5xen*) and its ramdisk (*initrd-2.6.18-8.1.4.el5xen.img*) in the */boot* directory:

*ls -l /boot/*

Before we can boot the system with the Xen kernel, we must tell the bootloader GRUB about it. We open */boot/grub/menu.lst*:

*vi /boot/grub/menu.lst*

and add the following stanza **above** all other kernel stanzas:

|  |
| --- |
| [...]  title CentOS (2.6.18-8.1.4.el5xen)  root (hd0,0)  kernel /xen.gz-2.6.18-8.1.4.el5  module /vmlinuz-2.6.18-8.1.4.el5xen ro root=/dev/VolGroup00/LogVol00  module /initrd-2.6.18-8.1.4.el5xen.img  [...] |

Then change the value of *default* to *0*:

|  |
| --- |
| [...]  default=0  [...] |

The complete */boot/grub/menu.lst* should look something like this:

|  |
| --- |
| # grub.conf generated by anaconda  #  # Note that you do not have to rerun grub after making changes to this file  # NOTICE: You have a /boot partition. This means that  # all kernel and initrd paths are relative to /boot/, eg.  # root (hd0,0)  # kernel /vmlinuz-version ro root=/dev/VolGroup00/LogVol00  # initrd /initrd-version.img  #boot=/dev/sda  default=0  timeout=5  splashimage=(hd0,0)/grub/splash.xpm.gz  hiddenmenu  title CentOS (2.6.18-8.1.4.el5xen)  root (hd0,0)  kernel /xen.gz-2.6.18-8.1.4.el5  module /vmlinuz-2.6.18-8.1.4.el5xen ro root=/dev/VolGroup00/LogVol00  module /initrd-2.6.18-8.1.4.el5xen.img |

Afterwards, we reboot the system:

*shutdown -r now*

The system should now automatically boot the new Xen kernel. After the system has booted, we can check that by running

*uname -r or uname -a (for more info)*

*[root@server1 ~]# uname -r  
2.6.18-8.1.4.el5xen  
[root@server1 ~]#*

So it's really using the new Xen kernel.

We can now run

*xm list*

to check if Xen has started. It should list *Domain-0* (*dom0*):

*[root@server1 ~]# xm list  
Name                                      ID Mem(MiB) VCPUs State   Time(s)  
Domain-0                                   0      350     1 r-----     94.4*

**3 Creating A Virtual Machine**

CentOS comes with a nice tool called *virt-install* with which we can create virtual machines for Xen.

*virt-install --prompt*

The tools asks a few questions before it creates a virtual machine.

*What is the name of your virtual machine?*

*How much RAM should be allocated (in megabytes)?*

*What would you like to use as the disk (path)?*    
*How large would you like the disk (/vm/vm01.img) to be (in gigabytes)?*    
*Would you like to enable graphics support? (yes or no)*    
*What is the install location?*

After the installation, you can use CTRL + j or CTRL + 5 to go back to the main console. Now when you run the list command you should see something similar in the example it is ‘vm01’

*xm list*

The output should look like this:

*[root@server1 xen]# xm list  
Name                                      ID Mem(MiB) VCPUs State   Time(s)  
Domain-0                                   0      259     1 r-----   1906.6  
vm01                                      3      255     1 ------    137.9*

To shut down *vm01*, do this:

*xm shutdown vm01*

To start *vm01* again, run

*xm create vm01*

If you want *vm01* to start automatically at the next boot of the system, then do this:

*ln -s /etc/xen/vm01 /etc/xen/auto*

Here are the most important Xen commands:

*xm create -c /path/to/config* - Start a virtual machine.  
*xm shutdown <name>* - Stop a virtual machine.  
*xm destroy <name>* - Stop a virtual machine immediately without shutting it down. It's as if you switch off the power button.   
*xm list* - List all running systems.  
*xm console <name>* - Log in on a virtual machine.  
*xm help* - List of all commands.

Create a Bridge for Xen & Ganeti assuming you are on eth0 and using a bridge called xenbr0

edit: #vi /etc/sysconfig/network-scripts/ifcfg-eth0

-example

DEVICE=eth1

BOOTPROTO=none

IPADDER=192.168.1.104

HWADDR=00:00:00:00:00:00

ONBOOT=yes

TYPE=Ethernet

BRIDGE="xenbr0"

NETMASK=255.255.255.0

IPADDR=192.168.1.104

GATEWAY=192.168.1.1

edit: #vi /etc/sysconfig/network-scripts/ifcfg-br0

-example

DEVICE="xenbr0"

TYPE=Bridge

BOOTPROTO="static"

IPADDR="192.168.1.104"

NETMASK="255.255.255.0"

ONBOOT="yes"