**XonTech Systems KVM Virtualization**

1. Modify the BIOS to recognize that virtualization will be used.
2. Install RHEL V5.5 or later, check “Virtualization” when prompted.

(If reinstalling later, Virtualization packages are located on the RHEL V5.5 DVD under the VT directory.)

1. Before configuring clients, a network bridge needs to be configured.

(This step only needs to be performed for an initial setup.)

brctl show – shows the current configuration (Ignore the **virbr0**  bridge)

brctl addbr br0 – adds br0 as a bridge

brctl addif br0 eth0 – adds the **br0** bridge to the **eth0** ethernet port

cp /etc/sysconfig/network-scripts/ifcfg-eth0 /etc/sysconfig/network-scripts/ifcfg-br0

edit ifcfg-br0 to look similar to the example below:

DEVICE=br0  
TYPE=Bridge  
BOOTPROTO=static  
IPADDR=###.###.###.### (put appropriate numbers here)  
NETMASK=###.###.###.### (put appropriate numbers here)  
GATEWAY=###.###.###.### (put appropriate numbers here)  
ONBOOT=yes

NOTE: DEVICE is **br0** and not **eth0**

Also edit ifcfg-eth0 to look similar to this:

DEVICE=eth0

HWADDR=##:##:##:##:##:##

ONBOOT=yes

TYPE=Ethernet

IPV6INIT=no

USERCTL=no

BRIDGE=br0

1. service network restart – restarts the network service to incorporate the changes that were just made.

Note: The 4 steps above only need to be run one time per actual hardware server.

**Managing Virtualization after Installation**

1. Run virt-manager, right click on the Linux server name and select “**New**”
2. Click on **Forward**
3. Type in a name for the template server and click on **Forward**.
4. Select Fully Virtualized

CPU Architecture: **X86\_64, i686, i386, etc…**

Hypervisor: **KVM**

1. Select **Local Install** and click on **Forward**.
2. Select CDROM or DVD

Path to Install: DVDROM itself

1. Click on **Forward**.
2. Select **File Disk Image**, click on Browser & select a directory to store the image files.

(Eg. /usr/images/server99.img)

1. Click on **Forward**.
2. Select **Shared Physical Device** and select eth0 (Bridge *<bridge name>*).
3. Click on **Forward**.
4. Select memory allocation & # of CPU’s, click on **Forward**.
5. Click on **Forward**, click on **Finish**.

**Suggestion**: Setup a template server. If a new server needs to be created, the template server can be used as a base to create new virtual servers.

**Creating A Server From A Template:**

1. cd /etc/libvirt/qemu – directory where the xml files reside.
2. cp *<Server template>.xml <new server name>.xml*
3. Use **uuidgen** to create a unique windows identifier

(Eg. 0794f34a-b856-4e1c-ab0c-86a0e6d784a8).

1. Edit the *<new server name>.xml* file and change the following:

<name>*<server##.img>*</name>

<mac address=’54:52:00:##:##:##’ /> (The first 3 sets of numbers lets Red Hat know that this is a virtual server. The last 3 sets of #’s you can use any unique #’s).

<uuid> USE THE uuidgen GENERATED ID </uuid>

<source file=’/*<server name.img>*’/>

1. cp *</usr/images/server name.img> </usr/images/new server name.img>*

The */usr/images* directory is the sample name used in step #8 of **Managing Virtualization after Installation**.

1. Chmod 600 /etc/libvirt/qemu/*<new server name.xml>*
2. Chmod 755 /usr/images/*<new server name.img>*
3. Virsh define /etc/libvirt/qemu/*<new server name.xml>*

**Virtualization Utilities:**

**virt-manager** – X11 GUI utility for managing & monitoring virtual hosts.

**virt-viewer** – X11 utility that brings up the graphical console of a virtual host.

**virt-install** – Command-line utility to create & configure a new virtual host.

**virsh** – General command-line virtual host management.

**drbdadm** – Used to administer shared block devices.

**Additional Notes**

/var/run/libvirt/qemu – This is where the running virtual servers reside.

/etc/libvirt/qemu – This is where the stopped virtual servers reside.