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KVM to VMware migration

On the VM source:

REDHAT 6 :

Stop the puppet service :

```
service puppet stop && chkconfig puppet off && service snmpd stop && chkconfig snmpd off
```

REDHAT 7 :

Stop the puppet service :

```
systemctl stop puppet && systemctl disable puppet && systemctl stop snmpd.service && systemctl disable
snmpd.service
```

Allow SSH from any hosts :

```
sed -i 's/.*ALL: ALL/# ALL: ALL/g' /etc/hosts.deny && grep ALL /etc/hosts.deny
```

Allow ROOT login :

```
sed -i 's/\(#PermitRootLogin yes\|PermitRootLogin no\)/PermitRootLogin yes/g' /etc/ssh/sshd_config && grep
^PermitRootLogin /etc/ssh/sshd_config && service sshd restart
```

Get MAC, IP , DNS and GW :

```
echo "IP NETWORK :" && ip a| grep eth0 -A1 | grep inet | awk '{printecho "IP NETWORK :" && ip a| grep eth0 -A1 |
grep inet | awk '{print$2}' && ip a| grep eth0 -A1 | grep link | awk '{print$2}' && echo && echo "IP BKP :" &&
ip a| grep eth1 -A1 | grep inet | awk '{print$2}' && ip a| grep eth1 -A1 | grep link | awk '{print$2}' && echo
&& echo "GW :" && netstat -rn | egrep "^0.0.0.0" | awk '{print $2}' && echo && echo "DNS :" && cat /etc/
resolv.conf | grep nameserver | awk '{print$2}'}' && ip a| grep eth0 -A1 | grep link | awk '{printecho "IP
NETWORK :" && ip a| grep eth0 -A1 | grep inet | awk '{print$2}' && ip a| grep eth0 -A1 | grep link | awk
'{print$2}' && echo && echo "IP BKP :" && ip a| grep eth1 -A1 | grep inet | awk '{print$2}' && ip a| grep eth1
-A1 | grep link | awk '{print$2}' && echo && echo "GW :" && netstat -rn | egrep "^0.0.0.0" | awk '{print $2}' &&
echo && echo "DNS :" && cat /etc/resolv.conf | grep nameserver | awk '{print$2}'}' && echo && echo "IP BKP :" &&
ip a| grep eth1 -A1 | grep inet | awk '{printecho "IP NETWORK :" && ip a| grep eth0 -A1 | grep inet | awk
'{print$2}' && ip a| grep eth0 -A1 | grep link | awk '{print$2}' && echo && echo "IP BKP :" && ip a| grep eth1
-A1 | grep inet | awk '{print$2}' && ip a| grep eth1 -A1 | grep link | awk '{print$2}' && echo && echo "GW :" &&
netstat -rn | egrep "^0.0.0.0" | awk '{print $2}' && echo && echo "DNS :" && cat /etc/resolv.conf | grep
nameserver | awk '{print$2}'}' && ip a| grep eth1 -A1 | grep link | awk '{printecho "IP NETWORK :" && ip a| grep
eth0 -A1 | grep inet | awk '{print$2}' && ip a| grep eth0 -A1 | grep link | awk '{print$2}' && echo && echo "IP
BKP :" && ip a| grep eth1 -A1 | grep inet | awk '{print$2}' && ip a| grep eth1 -A1 | grep link | awk '{print$2}'
&& echo && echo "GW :" && netstat -rn | egrep "^0.0.0.0" | awk '{print $2}' && echo && echo "DNS :" && cat /etc/
resolv.conf | grep nameserver | awk '{print$2}'}' && echo && echo "GW :" && netstat -rn | egrep "^0.0.0.0" | awk
'{print echo "IP NETWORK :" && ip a| grep eth0 -A1 | grep inet | awk '{print$2}' && ip a| grep eth0 -A1 | grep
link | awk '{print$2}' && echo && echo "IP BKP :" && ip a| grep eth1 -A1 | grep inet | awk '{print$2}' && ip a|
grep eth1 -A1 | grep link | awk '{print$2}' && echo && echo "GW :" && netstat -rn | egrep "^0.0.0.0" | awk
'{print $2}' && echo && echo "DNS :" && cat /etc/resolv.conf | grep nameserver | awk '{print$2}'}' && echo &&
echo "DNS :" && cat /etc/resolv.conf | grep nameserver | awk '{printecho "IP NETWORK :" && ip a| grep eth0 -A1 |
grep inet | awk '{print$2}' && ip a| grep eth0 -A1 | grep link | awk '{print$2}' && echo && echo "IP BKP :" &&
ip a| grep eth1 -A1 | grep inet | awk '{print$2}' && ip a| grep eth1 -A1 | grep link | awk '{print$2}' && echo
&& echo "GW :" && netstat -rn | egrep "^0.0.0.0" | awk '{print $2}' && echo && echo "DNS :" && cat /etc/
resolv.conf | grep nameserver | awk '{print$2}'}'
```

REDHAT 6 :

Backup Grub file :

```
cp /boot/grub/menu.lst ~/
```

REDHAT 7 :

Backup Grub file :

```
cp /boot/grub2/grub.cfg ~/
```

Set Selinux :

```
sed -i 's/SELINUX=disabled/SELINUX=permissive/g' /etc/selinux/config && touch /.autorelabel
```

List and Get file capabilities :

```
find / -maxdepth 1 -type d | egrep -v '^/(dev|proc|sys|tmp|run|boot|applications|home|net|)$' | xargs getcap -r
| gzip > /root/fs.cap.gz && zcat /root/fs.cap.gz
```

Unmount home dir of the application user:

```
for i in `find /applications/* -maxdepth 0 | cut -d "/" -f 3`; do umount /home/$i ; done;
```

REDHAT 7.6 :

add this command :

```
yum downgrade -y lvm2-libs-2.02.180-10.el7_6.2.x86_64 lvm2-2.02.180-10.el7_6.2.x86_64
device-mapper-event-libs-1.02.149-10.el7_6.2.x86_64 device-mapper-1.02.149-10.el7_6.2.x86_64
device-mapper-libs-1.02.149-10.el7_6.2.x86_64 device-mapper-event-1.02.149-10.el7_6.2.x86_64
```

VMware vCenter Converter

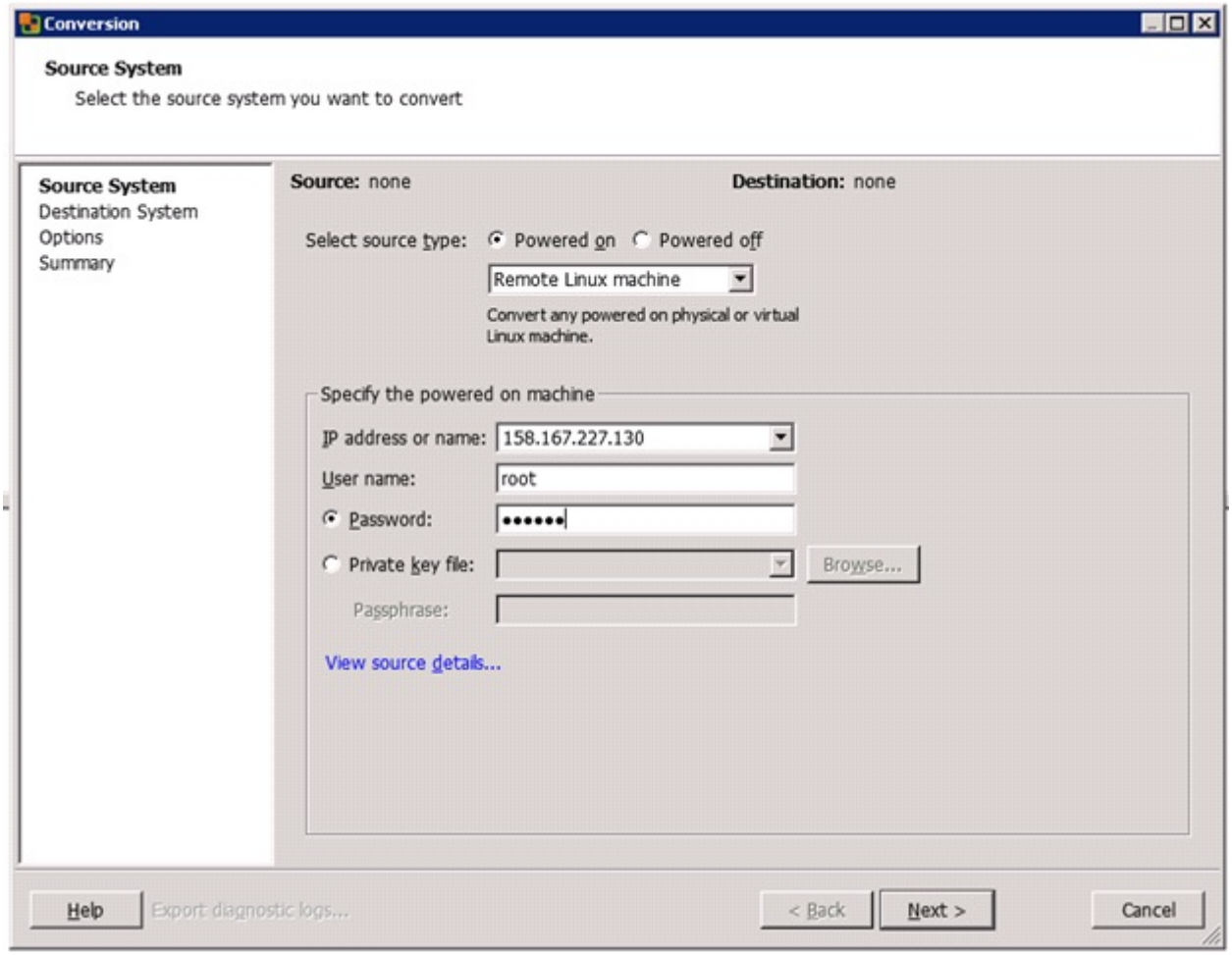
Connect on RDP to opvmwstss03 (for RH6 or 7.4)

Connect on RDP to opvmwsdpas1 (for RH7.6)

Launch VMware vCenter Converter Standalone Client

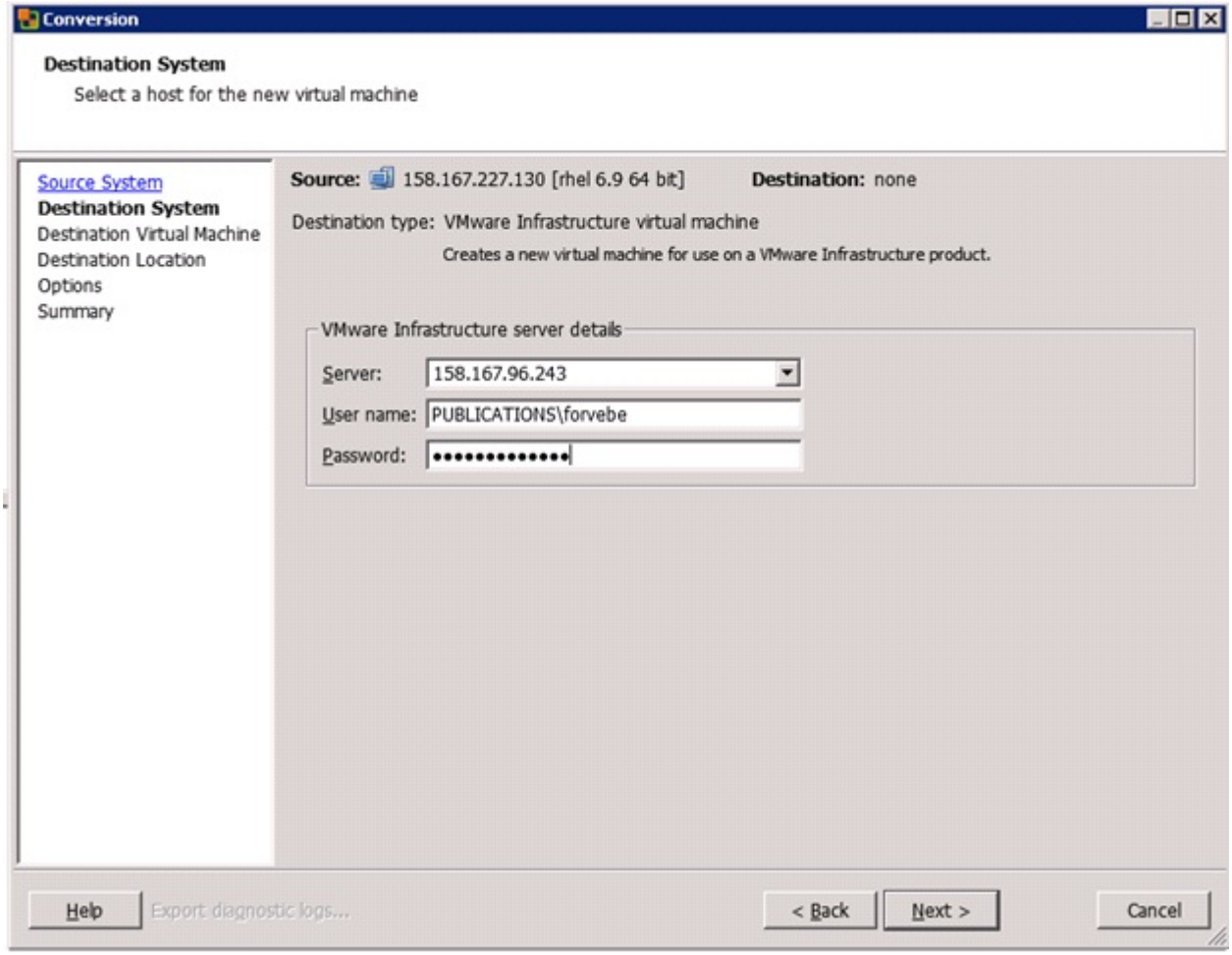
Connect to a local server

```
Click on Convert machine
Select source type: Power on => Remote Linux machine
VM source: IP address
User name: root
Password: Linux rules
```



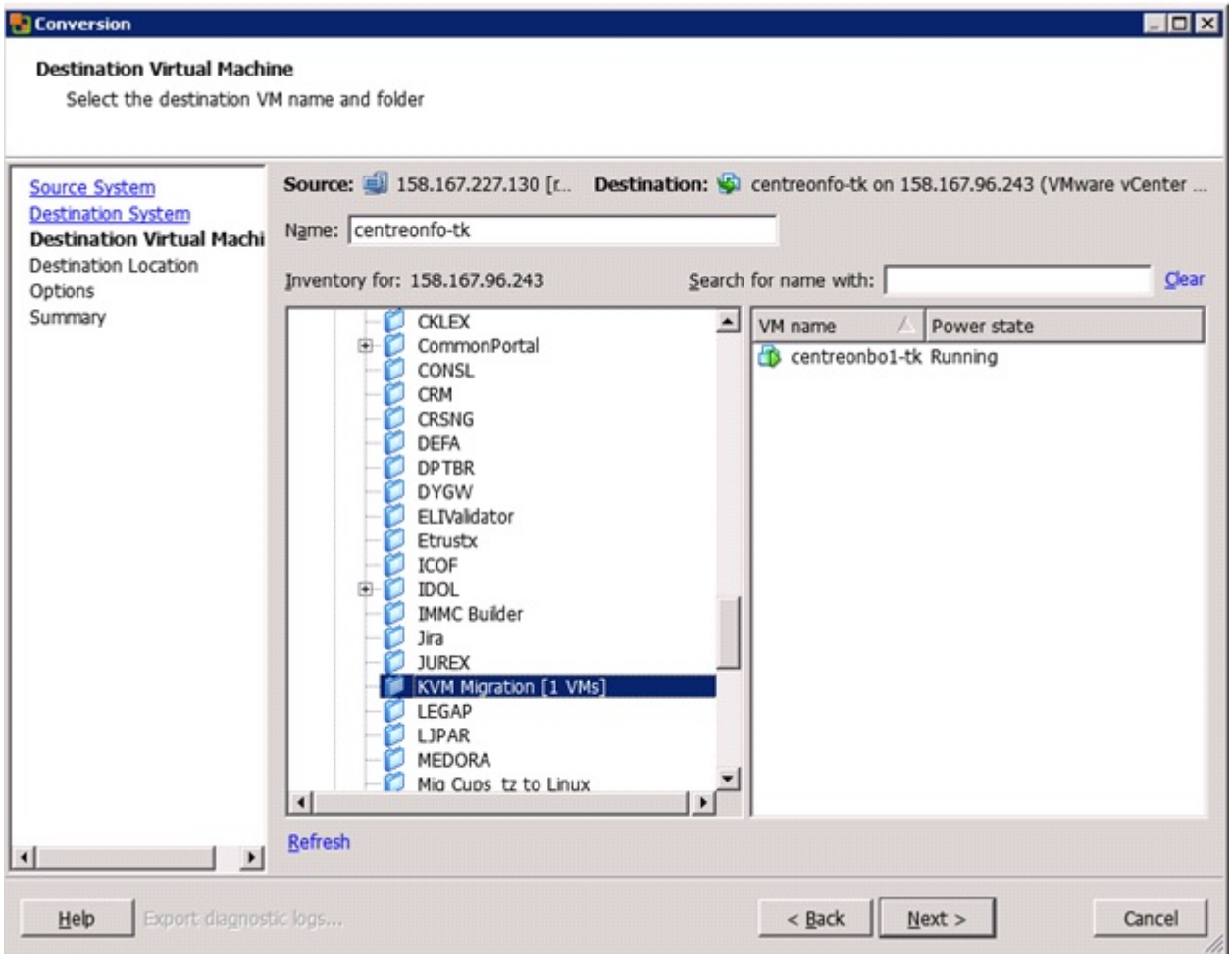
Next Accept the key

```
VMware Vcenter Server: 158.167.96.243
User name/Password: Credential Windows PUBLICATIONS
```



Next Ignore Certificate Warnings

```
Keep the VM Name
Select UNIX TEAM => KVM Migration
```



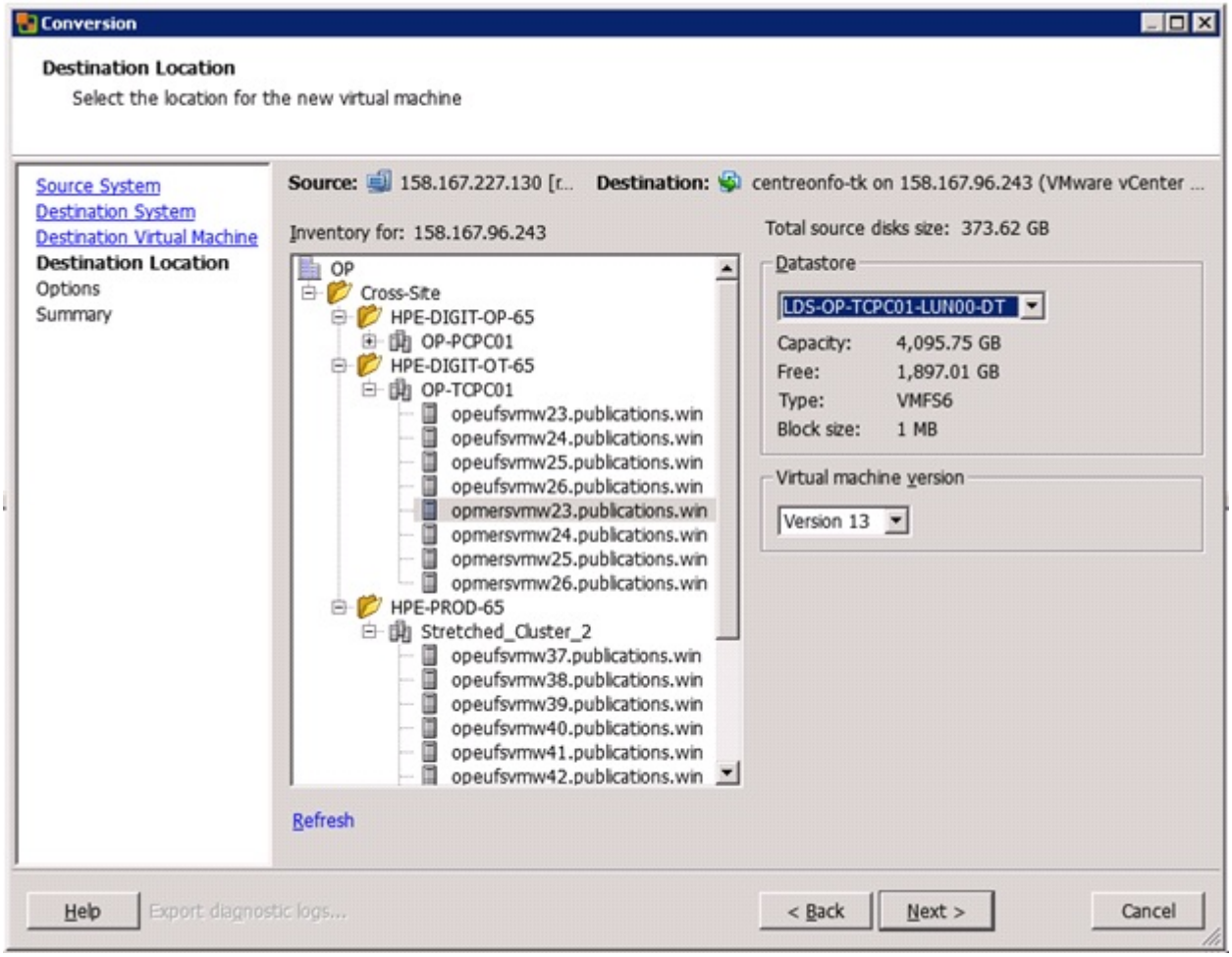
Next

For TEST :

```
Select HPE-DIGIT-OT-65 => OP-TCPC01
You can create VM on the following ESX servers:
-       opeufsvmw23 to opeufsvmw26
-       opmersvmw23 to opmersvmw26
- Choose the datastore cluster that start by “LDS” If the size of the VM > 200 GB
- Choose the datastore cluster that start by “DS” If the size of the VM < 200 GB
```

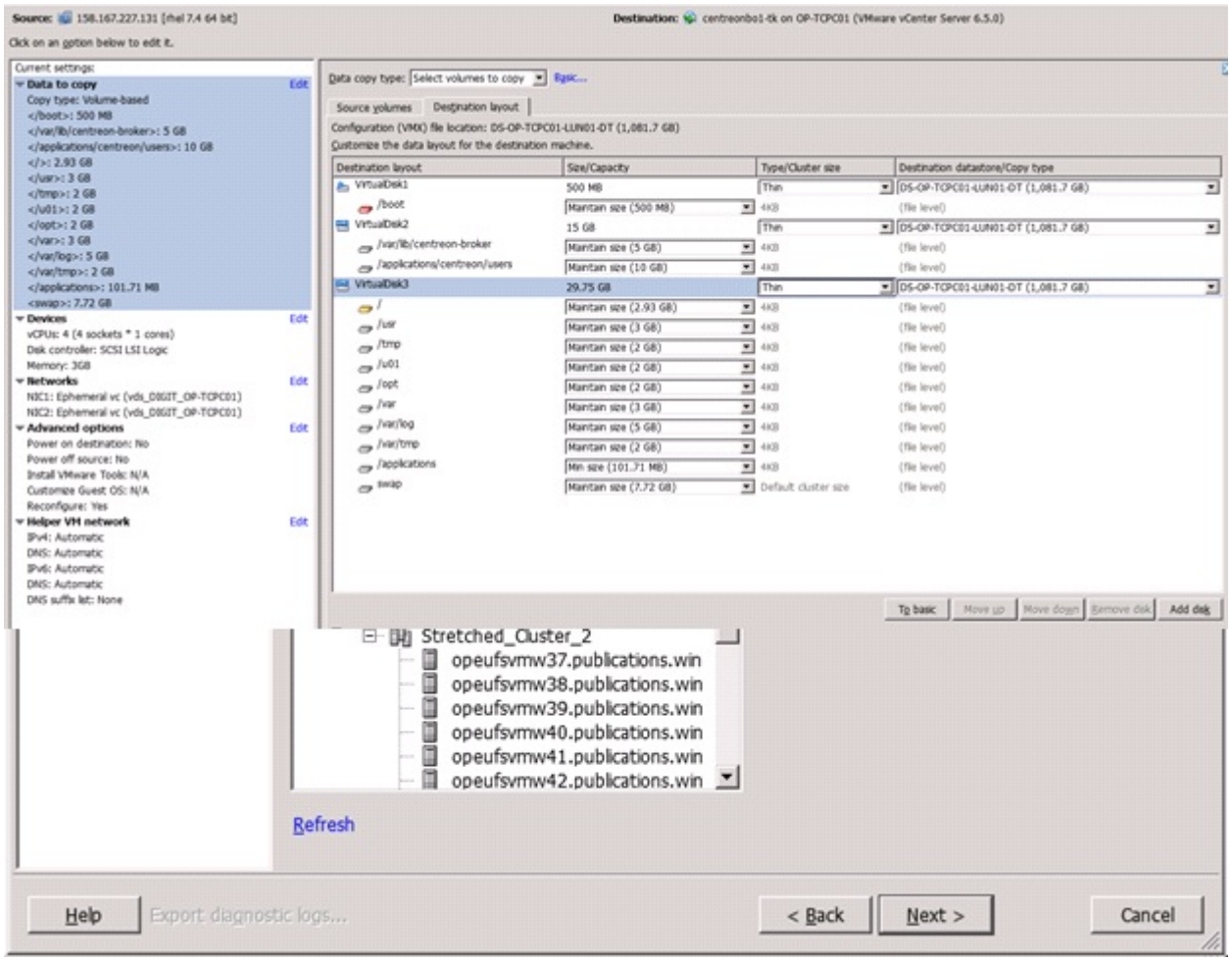
For PROD :

```
Folder: HPE-DIGIT-OP-65
Cluster: OP-PCPC01
You can create VM on the following ESX servers:
-              opeufsvmw27 to opeufsvmw36
-              opmersvmw27 to opmersvmw36
- Choose the datastore cluster that start by “LDC” If the size of the VM > 200 GB
- Choose the datastore cluster that start by “DC” If the size of the VM < 200 GB
```

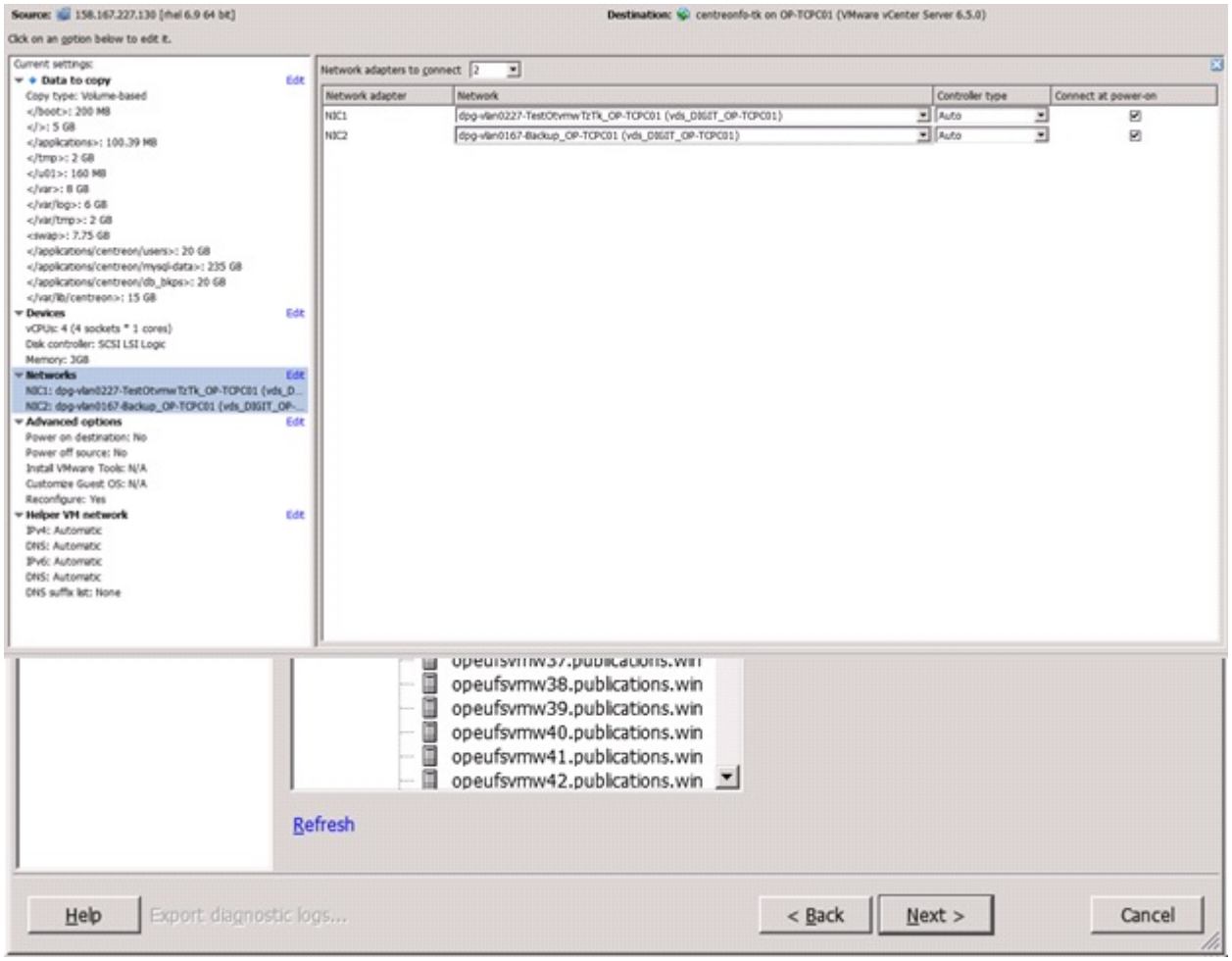


Next

```
Modify Data to copy:
-       Advanced => Destination Layout
-       Move system folder to VirtualDisk1
-       Create New Disk (4)
-       Move all systems partitions to the new disk
-       Change type New Disk to LVG
-       Destroy Old Disk with systems partitions
-       Modify Type to Thin for all disks
```



Modify Networks: Add VLAN



No modification in Advanced options Helper VM Network: - IPv4: Take the reserved IP

```
VLAND ID        Usage               IP 1              IP2               IP3
-------------------------------------------------------------------------------
VLAN1           Production        158.167.97.19       158.167.97.20       158.167.97.21
VLAN1000        NAS                10.235.100.45       10.235.100.46       10.235.100.47
VLAN220         cellar prod        158.167.224.37       158.167.224.38       158.167.224.39
VLAN221         cellar dev        158.167.224.77       158.167.224.78       158.167.224.79
VLAN222         cellar test        158.167.224.177       158.167.224.178       158.167.224.179
VLAN223         Reception        158.167.224.215       158.167.224.216       158.167.224.217
VLAN227         test-tz-tk        158.167.227.95       158.167.227.96       158.167.227.97

Use the same netmask and gateway than the source server

-       Change DNS Server

158.167.97.163
158.167.97.161
158.167.97.164
```

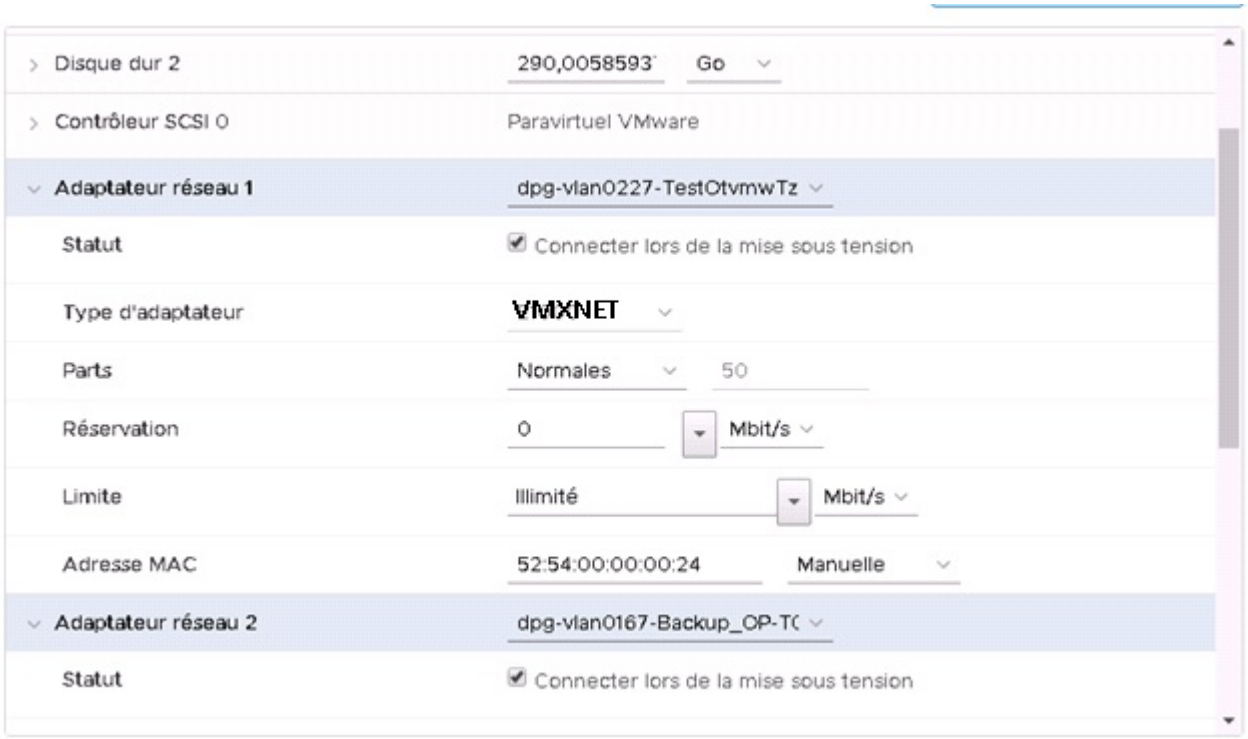
Uncheck IPv6 Next

Before clicking on Finish do unmount on the source server again:

Unmount home dir of the application user:

```
for i in `find /applications/* -maxdepth 0 | cut -d "/" -f 3`; do umount /home/$i ; done;
```

Once the migration is complete, log in to the vcenter: https://opvmwsvc060.publications.win/ui/




```
Modify the settings of the VM destination:
-       SCSI Controller 0 => VMware Paravirtual
-       Modify MAC Address for NIC 1: put the MAC eth0 of the source VM
-       Modify MAC Address for NIC 2: put the MAC eth1 of the source VM
-       Disconnect CD Player
-       Swap disk system and application
```

On the VM source :

```
yum history -y undo `yum history list | grep Downgrade | awk '{print  class="code bash"}' | head -1`
```

Stop the VM Source: On the cluster:

```
pcs resource disable centreonfo-tk
pcs resource unmanage centreonfo-tk

Wait the VM is stopped:
pcs status | grep centreonfo-tk
centreonfo-tk   (ocf::heartbeat:VirtualDomain):        Stopped (disabled, unmanaged)
```

Start the VM destination CHECK & DO :

SSH connection

lsblk (all disks are available + PV/VG/LV)

Restore orginal LVM packages :

```
yum history -y undo `yum history list | grep Downgrade | awk '{print  class="code bash"}' | head -1`
```

VGrename:

```
vgrename VolGroup0 root && sed -i 's/VolGroup0/root/g' /etc/fstab
```

Modify grub:

```
sed -i 's/VolGroup0/root/g' /boot/grub2/grub.cfg && sed -i 's/^: #/#/g' /boot/grub2/grub.cfg
```

```
vgchange -ay && lvchange /dev/root/* --refresh && mkinitrd -f -v /boot/initramfs-$(uname -r).img $(uname -r)
```

reboot / Reset VM

```
grub2-mkconfig -o /boot/grub2/grub.cfg
```

reboot

Set file capabilities :

```
zcat /root/fs.cap.gz | awk -F= '{print zcat /root/fs.cap.gz | awk -F= '{print $2 " " $1}' | xargs -n 2 setcap "
"  class="code bash"}' | xargs -n 2 setcap
```

REDHAT 7 : Install VMware Tools

```
yum install -y open-vm-tools.x86_64 -y && systemctl start vmtoolsd.service
```

Check puppet modifications:

```
puppet agent -t --noop
puppet agent -t ; service puppet start
```

REDHAT 6 :

```
chkconfig puppet on && chkconfig snmpd on && service smnpd start && service puppet status && service snmpd
status
```

REDHAT 7 :

```
systemctl enable puppet && systemctl start snmpd.service && systemctl enable snmpd.service && systemctl status
puppet && systemctl status snmpd
```

Disable root SSH access

REDHAT 6 :

```
sed -i 's/^PermitRootLogin yes/PermitRootLogin no/g' /etc/ssh/sshd_config && service sshd restart
```

REDHAT 7 :

```
sed -i 's/^PermitRootLogin yes/PermitRootLogin no/g' /etc/ssh/sshd_config && systemctl restart sshd
```

Check following things :

Mac address

Monitoring (services OK)

Backup

recover

Satellite

yum repolist

Reboot test

Start application

Enable application

Move the VM to the correct directory under VMware (DIGIT)

Remove Source VM:

Remove VM on the cluster

Remove LUNs

Update CMDB