**Redhat Linux Patching:**

1. Check if the machine is a physical or VM. and check for System Information  
# dmidecode -t system

|  |  |
| --- | --- |
| #dmidecode -s system-product-name | |
| #lspci | grep -i vmware |  |
| #dmidecode | less |  |

 #cat /etc/info.server  
Example :  
For Physical :  
System Information  
        Manufacturer: HP  
        Product Name: ProLiant DL385 G5  
For Virtual :  
System Information  
        Manufacturer: VMware, Inc.  
        Product Name: VMware Virtual Platform

Note:- Make sure you have console access for the server, test the access and make sure it is working. For virtual server, you might need to have access for vcenter (if you are using vmware).

2. Take System Backup:

For Virtual machines, we can take a snapshot & revert to it in case required(if any issues observed after patch).

For Physical machines, check for the ILO address & Take backup using tools if configured. for e.g. TSM backup client,etc. In some environment you may have scripts  to do backup of the whole rootvg via LVM snapshot.

3. On day of activity use your monitoring tool to acknowledge alerts. Communicate with monitoring team and ask them(via email or they might have had task in the change to do so.) to not to monitor server during the change window which is part of the change

4. Application or DB team to bring App and DB down on server (Application or DB team will take this responsibility). They will have separate task in the change to do this activitiy.  
5. Go for a simple reboot to ensure server doesn’t have any prior file system issues. (this is also known as precautionary reboot. Some customers don’t agree for this. But this is a best practice).  
6. Update the kernel on the machine. It is preferable to go for --install instead of --update option.  
7. Do a yum update for security and rest patches to complete the update.  
8. Reboot the machine.  
9. Once up, confirm the server is updated by uname -a and yum check-update.  
10. Put server out of Maintenance mode once confirmed Application/DB is up and running (this is one on the monitoring tool or any relevant tool such as CMDB etc.,)  
11. In case of issue, kindly rollback using yum history (RHEL 6)  for RHEL5. You might need to create an incident describing the issue. Incase of production server, the incident will have higher severity or priority.

**Useful Commands during server patching**

**Pre-Patching**

Below Commands can be run at once to take prior configuration backup of important files:

mkdir -p /tmp/patching`date +%y%m%d`

cd /tmp/patching`date +%y%m%d`

df -Ph >df.bkp

uptime | tee uptime\_before

cat /etc/fstab >fstab.bkp

pvs >pvs.bkp

vgs >vgs.bkp

lvs >lvs.bkp

uname -r  | tee kernel.bkp

cat /etc/grub.conf >grub.bkp

cat /proc/cpuinfo >cpu.bkp

cat /proc/meminfo >mem.bkp

ifconfig -a >ifconfig.bkp

cat /proc/mdstat >mdstat.bkp

netstat -nr >routingtable\_before

ls -lhR /boot >bootdir.bkp

fdisk -l >fdisk.bkp

ps -ef >ps\_bkp

chkconfig --list >chkconfig.bkp

service --status-all >services\_bkp

top -b1 -n1 >top\_bkp

dmidecode -t system | more

multipath -ll >multipath.bkp

powermt display dev=all >powermt.bkp

cat /etc/grub.conf >grub.pre

ls -lhtr

echo "configuration backup done"

cat /etc/info.server

**Patching**

yum list   (see available package)

yum update   (ask for Y or N to update packages)

yum update -y (will directly patch the available packages)

yum update -x kernel (exclude kernel update)

Make sure that an fsck won't be forced for ext2/3/4 filesystems on boot-up because of possibly having reached exceeded the “maximum mount count” or “maximum time since last check”; check each filesystem with tune2fs -l /dev/… and, if needed, disable the regular checks with tune2fs -c0 -i0 /dev/… (we normally do this right after creating filesystems, but it does not hurt to check it pre-reboot)

**Post-Patching**

cat /etc/fstab >fstab.bkp.post

top -b1 -n1 >top\_bkp.post

uname -a

yum check-update  
mount -a

/etc/init.d/PowerPath status

**Rollback**

Perform RollBack for RHEL 6  
Check update history  
yum history  
Output  
Loaded plugins: fastestmirror, refresh-packagekit  
ID     | Login user             | Date and time    | Action(s)      | Altered  
-------------------------------------------------------------------------------  
47 | root <root>            | 2012-05-27 09:03 | Install        |    4     
46 | root <root>            | 2012-05-27 09:02 | Install        |    2     
…

Check info of a particular update  
yum history info 46

To rollback to before update ID 47  
yum history rollback 46

Undo an update  
yum history undo 46

To repeat an update  
yum history repeat 46

## Pre- and post-reboot actions/checklist for remote Linux servers

## Before the reboot

* Take note of the running services, optionally make sure that all of them and no others are configured to start upon bootup
* Make sure that an fsck won't be forced for ext2/3/4 filesystems on bootup because of them possibly having reached or exceeded the “maximum mount count” or “maximum time since last check”: check each filesystem with tune2fs -l /dev/… and, if needed, disable the regular checks with tune2fs -c0 -i0 /dev/… (we normally do this right after creating filesystems, but it does not hurt to check it pre-reboot)
* Check the status of any software RAID devices with cat /proc/mdstat (if any of them are degraded, then at least take this into consideration)
* Right before the reboot, consider shutting some of the services down while you still have control and see the shutdown messages (e.g., run service vz stop to shutdown OpenVZ containers) - this may serve to reduce the risk of the system getting stuck on shutdown, as well as provide more info to us

## After the reboot

* If the delayed reboot from rc.local trick was used, then run shutdown -c, then comment out the command from rc.local
* Sanity-check the system - what kernel booted up, any potentially unexpected messages from it, software RAIDs status, system time, started services and containers, whatever else may be relevant
* If netconsole was activated and you don't intend to keep using it (such as running nc on the other end), disable it and prepare for another reboot
* Make the new configuration the default (e.g., swap the previous/new boot targets in /etc/lilo.conf and run lilo)