

## TECHNICAL HOWTO

# Linux image deployment from SCSI server to SATA server

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### **A**BSTRACT

This document describes the process to create and deploy system images from HP Proliant equiped with a RAID SCSI to HP Proliant equiped with SATA with mondo rescue software.

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# **General remarks**

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## Version history

Version	Date	Comments
1.0	06.07.2005	First draft / FX. Horel
2.01	05.10.2005	Review, add mkinitrd process / FX. Horel
2.02	07. 10. 05	Review / B. Cornec

#### **References**

Persons or documents	Description

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# **Prerequisites**

#### Requirements

The following steps must be done on the source system (HP Proliant with a SCSI Raid controller – cciss driver):

- Mondorescue must be installed (mondo + mindi RPMS/debs) (Latest version available at <a href="http://mondorescue.berlios.de">http://mondorescue.berlios.de</a>)
- Add the following line to /etc/modules.conf file (our target system uses a SATA controller managed by the ata\_piix module):

```
# echo 'alias scsi_hostadapter ata_piix' >> /etc/modules.conf
```

- Stop all the processes on the server for whose the online backup could cause problems (for example: Databases)

#### Backup the source server

Enter the following lines in a new file called test-mondo (with execute rights):

```
# cat > /usr/local/bin/mondo-bck << EOF
# Our data are on a separated XFS FS
umount -at xfs
# You need room under /usr/mondo
rm -fr /usr/mondo/*
mkdir -p /usr/mondo/images /usr/mondo/tmp /usr/mondo/scratch
/usr/sbin/mondoarchive -O -i -H -N -g -d /usr/mondo/images -T /usr/mondo/tmp
-S /usr/mondo/scratch -E /video -s 4300m
EOF</pre>
```

Ensure that you'll have enough space to store the mondo images and temporary files generated and launch the script:

```
# /usr/local/bin/mondo-bck
```

Then, when mondo has finished the backup, burn the images on DVD (in the script above, the image size is configured for 4.3GB).

## **Deployment on SATA server**

Insert the first DVD created by mondo rescue and start the server. It will boot automatically on the linux image (-H option of mondoarchive).

After few minutes, the software detects that the SCSI hardware is not present and that it can not mount the correct devices. It proposes to switch to interactive mode (answer Yes).

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Edit the mountlist and change the devices to reflect the current hardware (/dev/sda or /dev/sdb for the SATA controller). In this example, the source disks were 36Gb and the target ones were 80Gb.

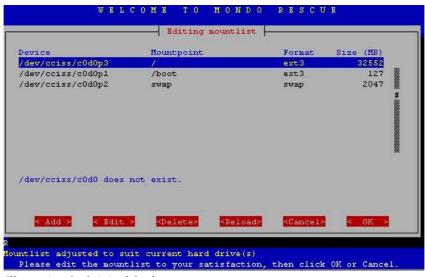


Illustration 1: Original fstab



Illustration 2: Modified fstab

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Press OK and answer Yes twice. It will repartitioned the disks and format them.





Mondo rescue will ask you for restoring the data on the new system. Answer Yes. At the end, it asks you to initialize the boot loader:



Answer Yes.

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Then you'll have to change the mountlist. Answer again Yes:



Change the mountlist and point it to /dev/sda (in case you have restored the image on /dev/sda):



Then it will ask to edit the /etc/fstab and /etc/grub.conf files and reboot the server. For fstab, you should change the file to reflect the change of hard drive reference (in our case from /dev/cciss/c0d0p? To /dev/sda?) as in the lines below:

```
sh-2.05b# more fstab
dev/sda1
                                                                             0 1
                                                   ext3
                                                            defaults
/dev/sda2
                         /boot
                                                   ext3
                                                            defaults
                                                                             0
                                                           gid=5,mode=620
none
                         /dev/pts
                                                                            0 0
                                                   devpts
                                                                            0 0
none
                         /proc
                                                   proc
                                                            defaults
                                                                            0 0
none
                         /dev/shm
                                                   tmpfs
                                                            defaults
/dev/sda3
                                                                            0 0
                                                            defaults
                         swap
                                                   swap
/dev/cdrom
                         /mnt/cdrom
                                                   udf, iso9660 noauto, owner, kudzu,
000
/dev/fd0
                         /mnt/f loppy
                                                   auto
                                                           noauto,owner,kudzu 0 0
sh-2.05b#
```

For /etc/grub.conf, you'll have to change it the same way to obtain:

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```
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/cciss/c0d0p3
            initrd /initrd-version.img
#boot=/dev/cciss/c0d0
default=0
timeout=10
splashimage=(hd0,0)/grub/splash.xpm.gz
title Red Hat Enterprise Linux AS (2.4.21-27.ELsmp)
        root (hd0,1)
        kernel /vmlinuz-2.4.21-27.ELsmp ro root=/dev/sda1 initrd /initrd-2.4.21-27.ELsmp.img
title Red Hat Enterprise Linux AS-up (2.4.21-27.EL)
        root (hd0,1)
        kernel /vmlinuz-2.4.21-27.EL ro root=/dev/sda1
        initrd /initrd-2.4.21-27.EL.img
"grub.conf" 20L, 740C
RC4 Secured (128 Bit)
```

The final step is to recreate your initrd so that it contains the right drivers needed for your new configuration (the current one references cciss):

Launch the following commands:

```
# mkdir -p /mnt/sysimage
# mount /dev/sda1 /mnt/sysimage
# mount /dev/sda2 /mnt/sysimage/boot # in case you have as us a separated /boot
# chroot /mnt/sysimage
# mkinitrd /boot/initrd-2.4.21-27.ELsmp.img 2.4.21-27.ELsmp
# mkinitrd /boot/initrd-2.4.21-27.EL.img 2.4.21-27.EL
# exit
```

After that, you should be able to reboot your system successfully with the new hardware configuration and the previous content restored by mondo.

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