

Bull System Backup / Restore

User's Guide for NovaScale
Universal & Intensive



NOVASCALÉ

Bull System Backup / Restore

User's Guide for NovaScale Universal &
Intensive

Software

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1 Presentation

“BULL SYSTEM BACKUP/RESTORE” (BSBR) is designed to backup a Linux® system. Four options are available:

- Backup on bootable DVD/CD including multi-volume management.
- Backup on tape (SDLT600, SDLT320, LTO-3, LTO-2, DDS4) and a boot CD.
- Backup on a local or remote disk and a boot CD.
- Backup on a local or remote disk and restoration by booting from a network boot server.

The BSBR utility is based on the Open Source utility named mkCDrec and includes the functions described in this manual.

The “BULL SYSTEM BACKUP/RESTORE” utility is included in the CD “Bull Extension Pack” delivered by Bull with each Linux® distribution.



WARNING:

❑ Multipathing:

The multipathing functionality is taken into account by BSBR only when it is managed by the native device-mapper module of Linux® kernel 2.6 (See the “Storeway® Multipath V2 for Linux®” CD).

❑ Backup of a XEN hypervisor (Virtualization Platform):

To backup a XEN hypervisor, you have to:

- check if the standard (not Xen) kernel RPM is installed (see in /boot). If not, install it from your Linux® distribution.
- set the 2 following parameters in /var/opt/mkcdrec/Config.sh:
 - LINUX_VERSION
= kernel release of the standard kernel available in /boot.
 - LINUX_KERNEL
= file name of the standard kernel file available in /boot.

Example for RHEL5.2:

```
LINUX_VERSION=2.6.18-92.el5
LINUX_KERNEL=/boot/vmlinuz-2.6.18-92.el5 for IA32
             /boot/efi/efi/redhat/vmlinuz-2.6.18-92.el5 for IA64
```

❑ SELinux:

Mkcdrec does not manage the SELinux files security contexts. Therefore, if SELinux is used:

- the files are correctly backed up, but the files security contexts are not retained.
- the restitution seems to be correct, but as SELinux is set in *enforcing* mode and the files security contexts are not defined, there is no way to login to the newly restored system, except if some manual operations are previously done.

So before rebooting at the end of the restitution of a system that is using SELinux *enforcing* mode (parameter "SELINUX=enforcing" in the `/etc/sysconfig/selinux` file), you have to manually run the following operations:

- mount the "/" restored file system on the "/mnt/local" directory
- choose one of the following options:
 - either keep the SELinux enforcing mode: in this case you have to force the relabeling with the default security contexts by creating an empty `.autorelabel` file at the root of the "/" file system:

```
touch /mnt/local/.autorelabel
```
 - or disable SELinux by setting "SELINUX=disabled" (instead of "enforcing") in `/mnt/local/etc/selinux/config`.
- reboot
- configure again SELinux with your own options.

If you rebooted at the end of the restitution without using the above workaround, and you are unable to login to your machine (you are prompted for password but *login* prompt appears endlessly), you have to fix this situation:

- reboot the machine using the mkcdrec boot media (CD or network boot)
- stop the restitution when you get the "AUTODR message".
- if you are using LVM, run the following command (to be able to mount the "/" file system):

```
vgchange -a y
```
- apply the above workaround.

2 Installation and Configuration

2.1 RPM Installation

You can check if BSBR is already installed using the following command:

```
[root@localhost ]# rpm -q mkcdrec
```

To install the BSBR rpm, insert the CD "Bull Extension Pack" in the drive and type the following commands:

```
[root@localhost ]# cd /<mntdir>/tools/mkcdrec  
[root@localhost ]# ./install.sh
```

with <mntdir> = mount directory for DVD/CD (see /etc/fstab)

2.2 For tape backup

1. Plug the drive into a SCSI connector.
2. Reboot the server to have the drive known by Linux®.
3. Look at the file /proc/scsi/scsi to check the presence of the tape drive.

Example: for a LTO2 drive, the line below is displayed:

Vendor: TANDBERG Model: TS400

```
[root@localhost]# cat /proc/scsi/scsi  
Attached devices:  
...  
Host: scsi1 Channel: 00 Id: 03 Lun: 00  
  Vendor: TANDBERG Model: TS400          Rev: 0218  
  Type:   Sequential-Access              ANSI SCSI revision: 03  
...
```

2.3 Verifications

To check if the installation and the system environment is correct type the following commands:

```
[root@localhost mkcdrec]# cd /var/opt/mkcdrec
[root@localhost mkcdrec]# make test
scripts/dispatch.sh test
Checking architecture...
Supported architecture:
Using Makefile.
make[1]: Entering directory `/var/opt/mkcdrec'
/var/opt/mkcdrec/scripts/test.sh
/bin:/usr/bin:/usr/sbin:/sbin:/usr/local/bin:/usr/local/sbin:/opt/schily/bin:/var/opt/mkcdrec/bin:/bin:/usr/bin:/usr/sbin:/sbin:/usr/local/bin:/usr/local/sbin:/opt/schily/bin:/var/opt/mkcdrec/bin:/usr/kerberos/bin:/usr/kerberos/sbin:/usr/kerberos/bin:/usr/local/sbin:/usr/local/bin:/sbin:/bin:/usr/sbin:/usr/bin:/usr/X11R6/bin:/root/bin:/dev:/dev
make test output of mkCDrec v0.9.6
Test 1: Are we root? Passed
Test 2: missing executables needed by mkCDrec Passed
Test 3: Filesystem for Initial ramdisk allowed? Passed
Test 4: loopback device works? Passed
Test 5: ram device available Passed
Test 6: romfs supported by the kernel? N/A
Test 7: cramfs supported by the kernel? N/A
Test 8: strip (from binutils) available? Passed
Test 9: BOOT_FLOPPY_DENSITY=ED ok? N/A
Test 10: cdrecord -scanbus N/A
Test 11: Header files present? Passed
Test 12: DEVFS supported by kernel? N/A
Test 13: filesystem tools present?
    ext2: Passed
    ext3: Passed
Test 14: initrd must be compiled in kernel! Passed
Test 15: Amount of memory available 255 Mb
Test 16: scripts/Config.sh a link? Passed
Test 17: serial console N/A
Test 18: supported architecture? Passed
Test 19: is RAMDISK_SIZE=96 big enough? Passed
Test 20: is BLK_DEV_RAM_SIZE big enough for initrd? 16384
Warning: You may increase (or decrease) INITRDSIZE in Config.sh from
8192 to 16384
Test 21: SELinux running in non-enforcing mode? Passed
make[1]: Leaving directory `/var/opt/mkcdrec'
```

Check all the tests. If one is "Failed", adjust the parameters in the Config.sh file.

3 BSBR Configuration

In the most current cases, BSBR has the right configuration for most Linux® systems. However you may modify the following parameters in `/var/opt/mkcdrec/Config.sh`

ISOFS_DIR (/tmp/backup)	Working directory where all the necessary files will put aside to burn on CD/DVD. WARNING: if you modify this parameter, put the new directory in "EXCLUDE_LIST".
CDREC_ISO_DIR (/tmp)	The location where 'CDrec.iso' ISO9660 images will be made. WARNING: if you modify this parameter, put the new directory in "EXCLUDE_LIST".
EXCLUDE_LIST	List of directories, which should be excluded during backup. See the note below.
MAXCDSIZE (4350000)	Max size for the ISO image (670000 for CD, 4350000 for DVD). Unit: kilobyte
DISKMBR ("(hd0")	For the GRUB bootloader: which is the MBR used to boot?
CMP_PROG (gzip)	The used compression program used (gzip, bzip2,...)
TapeDensity (0x42)	Parameter to be set according to the tape device: 0x42 for LTO-2 0x4A for SDLT600 0x49 for SDL320 0x44 for LTO-3 0x26 for DDS4
TAPE_DEV (/dev/nst0)	The name of the tape device.
AUTODR (y)	Automatic recovery. For a manual recovery, set AUTODR = n In "automatic recovery" mode, you may go back to "manual recovery" by pressing "Enter" when the following message is displayed at the beginning of the restore: <code>Press "Enter" key to interrupt AUTODR mode.</code> In manual mode you can start the restoration by typing: <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"><pre>cd /etc/recovery ./start-restore</pre></div>
KERNEL_APPEND	"append" command to be added to the configuration file for the bootloader (syslinux.cfg or elilo.conf) used to start the restoration
SERIAL BAUDRATE	If SERIAL is not empty (for example SERIAL=/dev/ttyS1), a getty process is started on this serial line during the restoration. BAUDRATE=speed (Example: BAUDRATE=115200) The password for "root" is "mkCDrec".

Note about EXCLUDE_LIST:

If you want to exclude from the backup the `"/dir"` directory, you can put this directory in the `EXCLUDE_LIST` parameter using one of the 2 following ways:

- **/dir**
The content of the `/dir` directory will not be saved and:
 - the directory is not re-created except if it is a mount directory.
 - If a file system is mounted on `/dir`, it is not modified.

- **/dir/***
The content of the `/dir` directory will not be saved and:
 - the directory is re-created.
 - If a file system is mounted on `/dir`, it is deleted and re-created empty.

Note about DISKMBR and the GRUB bootloader:

If the bootloader is GRUB, a part of this bootloader must be loaded into the MBR at the beginning of the disk used to boot. This MBR may be in a disk that is not the one containing the `"/boot/grub"` directory.

So, to set the server configuration more robust, `mkcdrec` loads the GRUB boot loader in the MBR of 2 disks:

- the disk defined by the `DISKMBR` parameter in the `Config.sh` file
- the disk containing the `"/boot/grub"` directory.

4 System Backup

To backup your system, you have to follow these steps:

1. Exclude the file systems used for user's data.

To save the file systems used for user's data, tools more suitable than BSBR are available: tar, cpio,....

To exclude these file systems, before starting the backup:

- Umount them or use the EXCLUDE_LIST parameter in /var/opt/mkcdrec/Config.sh (See the note in the chapter "BSBR Configuration").
- Comment the corresponding lines in the /etc/fstab file if they include the "auto" mount option.

2. For a backup on tape, insert the tape in the drive.

3. For a backup on a remote disk, mount with NFS the remote file system to be used.

Remark: for the NFS mount command, using a decimal value instead of the symbolic name for the IP address can avoid any naming problem at the restoration time.

4. Login as root and type the following commands:

```
[root@localhost] #bsbr
[...]
Make CD-ROM recovery (mkCDrec v0.9.6) by Gratien D'haese
This version (v0.8.7-2.b.5.8.4.Bull) contains
modifications and extensions by Bull

Enter your selection:

1) Rescue CD-ROM only (no backups)
2) Create ISO backup images in /tmp (to burn on CD or DVD)
3) Create backup on disk (mounted hard drive)
4) Create backup on tape device /dev/nst0
5) Quit

Please choose from the above list [1-5]:
```

5. Choose the desired option:

Choice 2: Backup on CD or DVD

Default: DVD

For CD, modify the "MAXCDSIZE" parameter in the Config.sh file (to 670000)

Choice 3: Backup on disk

When requested, provide the directory in which the backup files will be saved

Choice 4: Backup on tape

Default: LTO2

For other tape, modify the "TapeDensity" parameter in the Config.sh file (see 3 BSBR Configuration).

The list of all the file systems and swap partitions that will be saved is displayed before the backup starts.

A backup can last from few minutes to more than 1 hour depending on your system configuration.

The log files are:

- /var/opt/mkcdrec/mkcdrec.log
for each saved partition: /tmp/backup/<part>_<path>.log
with <part>=device name and <path>=mount directory

The ISO files are:

- /tmp/CDrec.iso : if only one ISO image is generated.
- /tmp/CDrec-<date>-n.iso: in case of a multi volume backup.

Moreover, for a backup on a local or remote disk, these log and ISO files are copied in the backup directory.

Remarks:

- The backup creates an archive file for each saved file system.
- A file system is not saved if its type is not in the following list: ext2, ext3, reiserfs, fat, vfat, msdos, xfs, jfs, ntfs, auto, minix. So the content of a DVD is never saved as its type is iso9660.

6. CD/DVD burning

If your NovaScale server includes a CD/DVD writer, burn the iso image using one of the following tools that are delivered with your Linux® distribution: **nautilus**, **k3b**, or **cdrecord**. See at the end of this guide some information about the use of these tools.

Else, you can transfer the file to any server with a CD/DVD writer.

5 System Restoration

5.1 Verifications to be done before a restoration

- The disk used for the restoration must not be smaller than the original disk and must have the same identification (`/dev/sdx`).
- For a restoration using NFS:
 - During restoration, Ethernet interfaces may be not identified in the same order as under your Linux[®] system. So if there are several Ethernet interfaces in the server using various drivers, you may have to plug the Ethernet link used to access to the backup server to an adapter that is not the same as the one used under your Linux[®] system.
- Check the list of disks that will be modified by the restoration:
 - The restoration modifies only the disks that were totally or partially included in the system backup.
 - When a disk has been only partially saved during the system backup, the system restoration is organized so that not to delete the not saved disk partitions or logical volumes but the integrity of these data cannot be absolutely guaranteed
 - Check you truly have other backups for these disk partitions.
 - BSBR displays the list of file systems that will be restored and then give you the opportunity to stop the process. Check carefully this list.

Detailed rules used during the restoration:

- If a saved file system is included in a disk partition:
 - The disk will be partitioned again, except if a partition with the same characteristics is already defined. Then the file system is recreated before restoring his content.
 - It is recommended to save the partitions not included in the system backup by using other tools: tar, cpio, etc.
- If a saved file system is included in a logical volume (LV):
 - The physical volume (PV) in which this LV is defined is re-created using the same UUID except if a PV with the same UUID exists.
 - The volume group (VG) in which the LV is included is re-created except if a VG with the same characteristics already exists.
 - The logical volume and the file systems are always re-created before restoring the content.

5.2 Booting from a DVD/CD drive

- Insert the DVD/CD in the drive (if you have a multi-CD/DVD backup use the first).
- Reboot the server and force booting from the DVD/CD drive.
 - For a NovaScale Universal computer, the default boot list guarantees a boot on the DVD/CD drive if a bootable DVD/CD is inserted.
 - For a NovaScale Intensive computer, use the EFI menu (or the `efibootmgr` command).

You have nothing else to do except if you want to check something before truly starting the restoration. See 5.3.3 *Restoration*.

5.3 Booting from a network boot server

5.3.1 In the network boot server

1. Login as root.
2. Copy the boot files under the /tftpboot directory. To do it, run the following command:

```
rsync -a <backup_server>:/<backup_dir>/tftpboot/* /tftpboot/<boot_dir>
```

with

<backup_server> = hostname of the backup server used for the system backup

<backup_dir> = directory used for the system backup

<boot_dir> = directory where to install the boot files to be used to start the restoration.

3. Modify the configuration files of the network boot server:
The used configuration files depend on the type of architecture of your computer. Some examples are delivered in an archive file in the "Bull Expansion Pack" CD: see the appendix "Configuration of a Boot Server".
 - ❑ To boot a NovaScale Universal computer (Xeon® processors), see the 5.3.1.1 paragraph.
 - ❑ To boot a NovaScale Intensive computer (Itanium® processors), see the 5.3.1.2 paragraph.

5.3.1.1 – Configuration files used to boot a NovaScale Universal computer

- ❑ **/etc/dhcpd.conf file:**

You have to define the Ethernet MAC address of the computer to be restored using the PXE protocol. For this, you have to add in the /etc/dhcpd.conf file a block as the one given in the below example.

WARNING:

You have to restart the dhcpd service to have your modifications taken into account.

```
/etc/init.d/dhcpd restart
```

Example:

To restore a computer named "stlinux3" using the following environment:

- Local MAC address "00:30:13:E3:36:DC";
- IP address of the tftp server used to boot: 172.16.113.213

add the following block in /etc/dhcpd.conf:

```
host stlinux3 {
    option host-name "stlinux3";
    fixed-address 172.16.113.3;
    hardware ethernet 00:30:13:E3:36:DC;
    next-server 172.16.113.213;
    filename "pxelinux.0";
}
```


□ **/tftpboot/pxelinux.cfg/01-<MAC>:**

In the /tftpboot/pxelinux.cfg directory, you have to create a file that defines a link between the MAC address of the client and the boot files to be used. This file must have the following characteristics:

- a predefined name: /tftpboot/pxelinux.cfg/01-<MAC> with <MAC> = MAC address use to boot the client but replacing ":" by "-", and using only low cases.
- a content similar to the one given in the below example.

Example for the stlinux3 computer described above:

- if the <boot_dir> directory is "pxelinux.cfg/stlinux3"
- and if in the Config.sh file: RAMDISK_SIZE=190, RAMDISK_BLOCKSIZE=1024 and KERNEL_APPEND="" (ramdisk must be greater than RAMDISK_SIZE * 1024)

a /tftpboot/pxelinux.cfg/01-00-30-13-e3-36-dc file must be created with a content similar to this one:

```
prompt 0
default linux
timeout 500
label linux
kernel pxelinux.cfg/stlinux3/linux
append initrd=pxelinux.cfg/stlinux3/initrd.img ramdisk_size=200000 ramdisk_blocksize=1024
implicit 0
display message
notice 2
```

5.3.1.2 Configurations files used to boot a NovaScale Intensive computer

□ **/etc/dhcpd.conf file:**

You have to define the Ethernet MAC address of the computer to be restored using the PXE protocol. For this, you have to add in the /etc/dhcpd.conf file a block as the one given in the below example.

WARNING:

You have to restart the dhcpd service to have your modifications taken into account.

```
/etc/init.d/dhcpd restart
```

Example:

To restore a computer named "stlinux3" using the following environment:

- Local MAC address "00:30:13:E3:36:DC";
- IP address of the tftp server used to boot: 172.16.113.213

add the following block in /etc/dhcpd.conf:

```
host stlinux3 {
    option host-name "stlinux3";
    fixed-address 172.16.113.3;
    hardware ethernet 00:30:13:E3:36:DC;
    next-server 172.16.113.213;
    filename "elilo.efi";
}
```

□ **/tftpboot/elilo.conf:**

For the stlinux3 computer described above,

- if the <boot_dir> directory is "stlinux3"
- and if in the Config.sh file: RAMDISK_SIZE=190, RAMDISK_BLOCKSIZE=1024 and KERNEL_APPEND="" (ramdisk must be greater than RAMDISK_SIZE * 1024)

a block has to be added to the /tftpboot/elilo.conf file with a content similar to this one:

```
image=stlinux3/vmlinuz
label="stlinux3 RESTORE"
initrd=stlinux3/initrd.img
append="ramdisk_size=200000 ramdisk_blocksize=1024"
```

5.3.2 In the server to be restored

Force the server to be restored to reboot on the Ethernet interface that has the MAC address defined above.

- For a NovaScale Universal computer, the network boot can be forced by typing the F12 key.
- For a NovaScale Intensive computer, use the EFI menu (or the efibootmgr command).

5.3.3 Restoration

You have nothing else to do except if you want to check something before truly starting the restoration.

You can stop the restoration when the following message is displayed on a red background:

```
Automatic Disaster Recovery (AUTODR) Mode is active !
Press "Enter" key to interrupt AUTODR mode (within 20 seconds)...
```

The automatic procedure is the best solution in most cases. For more control over the restoration procedure you can press Enter at this moment and launch the restore manually by the following commands:

```
[root@localhost mkcdrec]# cd /etc/recovery
[root@localhost mkcdrec]# ./start-restore.sh
```

At the end of the system restoration, just reboot using the command "**reboot**".

5.4 Verifications after reboot

- **Check if the swap is correctly started.**

To do so use the following command

```
swapon -s
```

The returned message lists all the swap partitions. If this list does not contain all the swap partitions defined in /etc/fstab, you can try the following commands:

- re-create the swap partition labels if such labels are defined in /etc/fstab:

```
mkswap -L <swap_label> /dev/sdax
```

- re-create the swap volumes:

```
mkswap -c /dev/swapvol  
swapon /dev/swapvol
```

where /dev/swapvol = name of a swap partition listed in /etc/fstab and not started.

- **Check the list of the mounted file systems.**

If a file system "/dev/sdxx" should be mounted but is not, you can:

- ✓ If UUID are used in /etc/fstab, manually correct the file after restoration because the UUIDs will no longer be correct after the restoration. To know the UUID linked to a file system, you can use the following command:

For a FS type ext3: `dump2fs -h /dev/sdxn |grep -i uuid`

For a FS type Reiserfs: `debugreiserfs /dev/sdxn | grep -I uuid`

- ✓ If LABELs are used in /etc/fstab, check if the used labels are not already used for other disk partitions.
- ✓ Check the file system:

```
fsck -y /dev/sdxx  
mount -a
```

- ✓ If a logical volume (LV) is not re-created, try to reduce its size by 1 (see the script /etc/recovery/lvm/mklvm/<VG name>/<LV name>). If running this corrected script, the LV is created, you can re-start the complete restoration and get a successful restoration.

Remark:

You can log into the server under restoration

- via TCP/IP if the restoration is using NFS
- or via a serial line defined by the parameters SERIAL and BAUDRATE set in the Config.sh file before the backup (Don't forget to add the serial line name in the etc/security file.)

using the following user's name/password: root/mkCDrec.

Appendix A: DVD/CD burning

1. Using nautilus:

- Open a terminal and type "**nautilus <dir>**"
with <dir> = the directory where is the ISO image (/tmp by default for mkcdrec)
- A window is displayed showing the content of the <dir> directory. Left click left on the ISO image to burn, then right click and select the option "Write to Disc..."
- Start the burning by clicking on the "Write" button.
- When the burning is finished, click on the "Close" button.

2. Using k3b

- Open a terminal and type "**k3b**"
- Click on the menu "Tools" and choose "DVD" (or CD) and Burn "DVD image"
- A window titled "Burn ... to DVD" is displayed
Click on the icon at the end of the line "Image to burn" to open a new window that will display a browser to allow you to select the file containing the ISO image you want to use.
Start the burning by clicking on the "Start" button.
When the burning is finished, click on the "Close" button.

3. Using cdrecord

The command depends on the device type.

- Device on an IDE bus

```
[root@localhost mkcdrec]# cdrecord -dev=ATAPI -scanbus
...
scsibus0:
    0,0,0      0) 'MATSHITA' 'DVD-ROM SR-8177 ' 'NZ20' Removable CD-ROM
...
[root@localhost mkcdrec]# cdrecord -v -dev=ATAPI :0,0,0 -data file.iso
```

- Other Devices

```
[root@localhost mkcdrec ]# cdrecord -scanbus
...
0,0,0      0) «Slimtype» «COMBO LSC-24081 « «3M09» Removable CD-ROM
...
[root@localhost mkcdrec ]# cdrecord -v -dev=0,0,0 -data file.iso
```

Appendix B: Configuration of a Boot Server

To configure a Linux® system as a boot server, follow the below steps:

1. Install the bootserver.tar.gz archive:

The bootserver.tar.gz archive delivered in the “Bull extension pack” CD must be installed in the /tftpboot directory.

To do it, if the “Bull extension pack” CD is mounted on /media/recorder, run the following commands:

```
[root@localhost]# mkdir /tftpboot
[root@localhost]# cd /tftpboot/
[root@localhost]# tar xzf /media/cdrecorder/tools/bootserver.tar.gz
```

The bootserver.tar.gz archive contents the following files:

- elilo.efi and textmenu
- pxelinux.0 and the empty directory pxelinux.cfg
- the directory “examples” that contents some examples of configuration files:
01-00-15-17-1e-ee-1f, dhcpd.conf, elilo.conf



Note:

/tftpboot is the standard directory used by a tftp server. You can check it in the configuration file /etc/xinetd.d/tftp. Do not forget to restart the xinetd.d daemon after each modification.

2. Install and start a DHCP server

1. Check if the dhcp RPM is installed. For example:

```
[root@localhost]# rpm -q dhcp
```

```
dhcp-3.0.1-59.EL4
```

2. If it is not installed, install the dhcp RPM from the distribution installation media.
3. Initialize the `/etc/dhcpd.conf` configuration file.
See the example in: `/tftpboot/examples/dhcpd.conf`.
4. Restart the dhcp daemon:

```
[root@localhost]# /etc/init.d/dhcpd restart
```



Warning:

You have to restart the DHCP daemon after each modification of `/etc/dhcpd.conf` typing the following command:

```
/etc/init.d/dhcpd restart
```

3. Install and start a TFTP server

1. Check if the tftp RPMs are installed. For example:

```
[root@localhost]# rpm -qa |grep tftp
tftp-0.39-1
tftp-server-0.39-1
```

2. If they are not installed, install the tftp and tftp-server RPM from the distribution installation media.
3. Edit the file `/etc/xinetd.d/tftp`. Change the value `disable` to `no`.
4. Restart the xinetd daemon:

```
/etc/init.d/xinetd restart
```

4. To boot Itanium® based server, initialize elilo.conf

The `elilo.conf` configuration file used to boot Itanium® based server has to be installed under the `/tftpboot` directory. See the example installed in `/tftpboot/examples`.

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