

# INTERLAB

Tel: +331 3971 7337 – Fax: +331 3928 9008

## ISSUE: xfs RAID mount

Concerned platforms:

OS : Linux Fedora Core2 Kernel 2.6.x

Vernouillet, 02.02.05

### Issue:

- A. Prepare or reconfigure XFS or NTFS storage on Linux Kernel 2.6.x
- B. Prepare or reconfigure RAID storage across several disks on Linux Kernel 2.6.x

Note: NTFS is only good for reading, the only reason why to do this is to be able to read data generated by a Windows machine where NTFS is used. If you can avoid doing this rather use FAT32, directly supported.

### Action

#### A. Prepare or reconfigure XFS or NTFS storage on Linux Kernel 2.6.x

1. Check that devices are present and alive:

```
# david@stargate:/etc
> cat /proc/scsi/scsi
Attached devices:
Host: scsi0 Channel: 00 Id: 00 Lun: 00
  Vendor: SEAGATE Model: ST19171W Rev: 0024
  Type: Direct-Access ANSI SCSI revision: 02
Host: scsi0 Channel: 00 Id: 01 Lun: 00
  Vendor: SEAGATE Model: ST19171W Rev: 0024
  Type: Direct-Access ANSI SCSI revision: 02
```

2. Check that your system supports the needed FS type: `cat /proc/filesystems`

```
# root@panoramix:/home
> cat /proc/filesystems
nodev rootfs
nodev bdev
nodev shm
nodev pipefs
nodev ext2
nodev ramfs
nodev autofs
nodev devpts
nodev nfs...
```

If the needed file system is not supported by the Kernel and the Kernel module is not loaded you need to find it **via yum**, install it and load it first manually then add it to `modprobe.conf`.

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## 3. Procedure to install xfs support

Find it on the web:

```
[root@Panoramix2 etc]# yum search *xfs*
```

Install it:

```
[root@Panoramix2 etc]# yum install kernel-module-xfs-2.6.10-1.14_F*
...
Gathering header information file(s) from server(s)
Server: Fedora Core 2 - i386 - Base
Server: Fedora.us Extras (Stable)
Downloading Packages
Getting kernel-module-xfs-2.6.10-1.12_FC2smp-2.1.22-0.lvn.1.2.i686.rpm
kernel-module-xfs-2.6.10 100% |=====| 68 kB 00:01
Running test transaction:
Test transaction complete, Success!
kernel-module-xfs-2.6.10-1.12_FC2 100 % done 1/1...
Transaction(s) Complete
```

To load manually the module :

```
[root@Panoramix2 etc]# modprobe xfs
```

Check that it is on :

```
[root@Panoramix2 /]# lsmod
Module                Size  Used by
ntfs                   98160  0
e100                   35905  0
xfs                   487041  0
```

At this point you have all the necessary tools to creat XFS file system.

## 4. Creat XFS file system

creat xfs :

```
root@Panoramix2 etc]# mkfs.xfs /dev/hda4
```

more infos, type **man mkfs.xfs**

look that it is there :

```
[root@Panoramix2 etc]# fdisk -l /dev/had
```

creat a directory :

```
[root@Panoramix2 etc]# mkdir /home/XFS
```

mount the FS in it :

```
[root@Panoramix2 etc]# mount /dev/hda4 /home/XFS
```

At this point you can write and read over this mount point, you can check with **df** or **mount** if it is there.

## 4. To make it permanent you need to works on:

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a. **modprob.conf** : is some kind on “autoexec” loading kernel modules. Edit this file and add a alias line...

```
[root@Panoramix2 etc]# jed modprobe.conf
alias eth0 e100
alias scsi_hostadapter sym53c8xx
alias usb-controller uhci-hcd
alias xfs-support xfs
alias ntfs-support ntfs
```

b. **fstab**; automatic mount for partitions.

```
[root@Panoramix2 etc]# jed fstab
LABEL=/ / ext3 defaults 1 1
LABEL=/boot /boot ext3 defaults 1 2
none /dev/pts devpts gid=5,mode=620 0 0
none /dev/shm tmpfs defaults 0 0
none /proc proc defaults 0 0
none /sys sysfs defaults 0 0
/dev/hda3 swap swap defaults 0 0
/dev/fd0 /mnt/floppy auto noauto,owner,kudzu 0 0
tmpfs /dev/shm tmpfs defaults 0 0 mount /dev/shm
/dev/cdrom /mnt/cdrom udf,iso9660
noauto,owner,kudzu,ro 0 0
/dev/hda4 /home/XFS xfs
```

## B. Prepare / reconfigure RAID storage across servral disks on Linux Kernel 2.6.x

make certain that you have “md” module loaded (md = multiple drive) if not get it via yum. Ex: yum seach md or raidtools

4. Update or create if not present file raidtab in /etc. Here is an example for stripping in Raid 0 sda1

```
raiddev /dev/md0
raid-level 0
nr-raid-disks 2
persistent-superblock 1
chunk-size 64
device /dev/sda
raid-disk 0
device /dev/sdb
```

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raid-disk 1

## 5. Initialization

Once you have edited the raidtab file, you will need to initialize the RAID device. This is done via the following command:

```
$> mkraid /dev/md0
```

This will run for a few moments and should return without error.

## 5. Filesystems installation

When working with high performance video on a Linux box, the filesystem of choice is SGI XFS. It is extremely fast and implements several advanced features need to attain the bandwidth for high end video.

Verify that your kernel support XFS.

If you have `/sbin/mkfs.xfs` you have modules for operating XFS.

```
To load the module :  
/sbin/modprobe xfs
```

```
Check if module is loaded : lsmod
```

```
You should have an entry :  
Module           Size  Used by  
xfs               487041  0
```

```
cat /proc/filesystems will contain "xfs"
```

Pls. send us your feel back.  
Rev.1 – David 04.02.05