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## **Fedora 17 @ dom3**

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# Fedora 17 @ dom3

## Installed software: diaries

### 1. (12.06.13) System installation (Fedora 17)

#### General remarks

- All logs are copied from ~root to

```
/opt/root/Install/initial_installation_logs/.
[root@localhost Install]# ll initial_installation_logs/
total 200
-rw-----. 1 root root 14995 Jun 12 07:34 anaconda-ks.cfg
drwxr-xr-x. 2 root root 4096 Jun 12 07:00 anaconda-screenshots
-rw-r--r--. 1 root root 138 Jun 13 16:08 anaconda-screenshots.ORIGIN
drwxr-xr-x. 2 root root 4096 Jun 13 04:33 firstboot-screenshots
-rw-r--r--. 1 root root 153285 Jun 12 07:33 install.log
-rw-r--r--. 1 root root 18434 Jun 12 07:24 install.log.syslog
```

(local copies:

```
anaconda-ks.cfg,
anaconda-screenshots.ORIGIN,
install.log,
install.log.syslog,
anaconda-screenshots.screenshot-0052.png,
firstboot-screenshots.screenshot-0000.png
```

)

- The system was installed from a *Fedora-17-x86\_64\_DVD* disc. It was a graphical installation in the *Troubleshooting -> Install in a basic graphics mode* branch (normal branch lead to a hangup of the PC).

- Unfortunately, the screenshots were not found in the

```
~root/anaconda-screenshots,
```

where they had to be.

This can be associated with a *bug* discussed in

- ◆ "Anaconda screenshots are not saved after reboot"

[https://bugzilla.redhat.com/show\\_bug.cgi?id=787962](https://bugzilla.redhat.com/show_bug.cgi?id=787962) .

◇ Bug in F16, to be fixed in F18.

◇ Suggested remedy (AMM 2012-03-25 02:14:40 EDT):

· before **rebooting** you should run (manually by switching to console Alt-F2)

```
mkdir /mnt/sysimage/root/anaconda-screenshots
cp /tmp/anaconda-screenshots/* \
  /mnt/sysimage/tmp/anaconda-screenshots/* \
  /mnt/sysimage/root/anaconda-screenshots/
```

AFTER all the installation (including the *"firstboot"* stage) had finished, I found only one file

```
screenshot-0052.png
```

in the

```
/tmp/anaconda-screenshots
```

directory which I saved to

```
~root/anaconda-screenshots
```

- As a guide to the installation, I used my notes in the

- ◆ [Inst\\_SW\\_aux/F17\\_Installation\\_Guide\\_Notes.html](#) ( local copy, requires the character encoding to be set to either *Western Windows-1252* or *Cyrillic Windows-1251* ).

## Step 1. Loading system from disc

### Hard disk partitioning.

Two Windows partitions were available:

```
sda1
sda2 (~100Gb, "Win7") .
```

The following new partitions were created:

```
sda3 250Mb ext4 /boot
sda4                                     extended partition
sda5 176GB                               LVM physical volume
sda6 250Mb ext4 /boot2                   a reserve for future Linux systems
sda7 250Mb ext4 /boot3                   -"-
sda8 250Mb ext4 /boot4                   -"-
```

The `/boot [2-4]` were specified **BEFORE** the LVM PhysVolume and first got natural names `sda [5-7]`, but specifying the LVM volume *moved them* to `sda [6-8]` for an unknown reason.

Here is a post-installation report on the the above partitions by *fdisk*:

```
[root@localhost Install]# fdisk -l /dev/sda

Disk /dev/sda: 750.2 GB, 750156374016 bytes
255 heads, 63 sectors/track, 91201 cylinders, total 1465149168
sectors

Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x85dc822c

   Device Boot      Start         End      Blocks   Id  System
/dev/sda1  *          2048        206847    102400   27  Hidden NTFS WinRE
/dev/sda2                206848    195518463   97655808   7  HPFS/NTFS/exFAT
/dev/sda3          195518464    196030463    256000   83  Linux
/dev/sda4          196030464    1465147391   634558464   5  Extended
/dev/sda5          196034560    556482559   180224000  8e  Linux LVM
/dev/sda6          556484608    556996607    256000   83  Linux
/dev/sda7          556998656    557510655    256000   83  Linux
/dev/sda8          557512704    558024703    256000   83  Linux
```

### LVM partitioning.

One LVM volume group (phys. extent size 4Mb) was created named

```
vg01
```

with the following LVM logical volumes:

```
lv_swap      4Gb
lv_root1     16Gb  ext4 /
lv_opt1      20Gb  ext4 /opt
lv_x01       50Gb  ext4 /x01
```

occupying 90 Gb. The rest free ~86 Gb of the LVM phys. volume are left for, say, 16 Gb (*lv\_root2*) + 20 Gb (*lv\_opt2*) of the next Linux (Fedora 18 ?) plus 50 Gb of a general reserve.

### Post-installation reports on partitions and devices

#### */etc/fstab*

Here is the description of all the (standard + LVM) partitions in the post-installation */etc/fstab*:

```
# /etc/fstab
# Created by anaconda on Wed Jun 12 06:53:53 2013
#
# Accessible filesystems, by reference, are maintained under
#                                     '/dev/disk'
# See man pages fstab(5), findfs(8), mount(8) and/or blkid(8) for
#                                     more info
#
/dev/mapper/vg01-lv_root1          /          ext4 defaults 1 1
UUID=a984859d-099b-4fc7-a5bd-c0330eee186f /boot      ext4 defaults 1 2
UUID=adefa6ae-ccda-4c58-8f26-214fef90236e /boot2     ext4 defaults 1 2
UUID=eea0a12e-a855-4327-9ac6-4d79d1659c3f /boot3     ext4 defaults 1 2
UUID=alb1e9df-dbb0-4dad-9f55-cf2c359ebe60 /boot4     ext4 defaults 1 2
/dev/mapper/vg01-lv_opt1 /opt       ext4 defaults 1 2
/dev/mapper/vg01-lv_x01 /x01      ext4 defaults 1 2
/dev/mapper/vg01-lv_swap swap       swap defaults 0 0
```

#### *df -h*

Another table of (post-installation) device - mount point correspondence is given by the *`df -h`* command:

```
[fedotov@localhost]~% df -h
Filesystem                Size      Used Avail Use% Mounted on
devtmpfs                  2.0G         0  2.0G   0% /dev
tmpfs                     2.0G       92K  2.0G   1% /dev/shm
tmpfs                     2.0G     2.7M  2.0G   1% /run
/dev/mapper/vg01-lv_root1  16G     9.5G  5.1G  66% /
tmpfs                     2.0G         0  2.0G   0% /sys/fs/cgroup
tmpfs                     2.0G         0  2.0G   0% /media
/dev/sda3                 239M     88M  139M  39% /boot
/dev/mapper/vg01-lv_opt1   20G    242M   18G   2% /opt
/dev/sda6                 239M     2.1M  224M   1% /boot2
/dev/sda8                 239M     2.1M  224M   1% /boot4
/dev/sda7                 239M     2.1M  224M   1% /boot3
/dev/mapper/vg01-lv_x01   48G    409M   46G   1% /x01
```

#### *blkid*

Another list of devices:

```
[root@...]# blkid
/dev/sda1: LABEL="System [Don't Touch]" UUID="F828C44D28C40C96" \
          TYPE="ntfs"
/dev/sda2: LABEL="Win7" UUID="C2E6C562E6C55777" TYPE="ntfs"
/dev/sda3: UUID="a984859d-099b-4fc7-a5bd-c0330eee186f" TYPE="ext4"
/dev/sda5: UUID="0Yptz3-QJ1d-qhg0-HEqa-nD9p-jKse-RUy1Jc" \
          TYPE="LVM2_member"
/dev/sda6: UUID="adefa6ae-ccda-4c58-8f26-214fef90236e" TYPE="ext4"
/dev/sda7: UUID="eea0a12e-a855-4327-9ac6-4d79d1659c3f" TYPE="ext4"
/dev/sda8: UUID="alb1e9df-dbb0-4dad-9f55-cf2c359ebe60" TYPE="ext4"
/dev/mapper/vg01-lv_root1: UUID="2ae2f462-6fe5-4427-b8e6-faa7dcaf004d" \
          TYPE="ext4"
/dev/mapper/vg01-lv_swap: UUID="be1bcd3a-b9d6-450f-8d99-98aa44092e9f" \
          TYPE="swap"
/dev/mapper/vg01-lv_x01: UUID="b7e9002e-ef88-48eb-b0a7-88cdb9bdebc8" \
```

```

                                         TYPE="ext4"
/dev/mapper/vg01-lv_opt1: UUID="c820e6bc-3c3a-4057-8b8c-bab76258970b" \
                                         TYPE="ext4"

```

### Network parameters

- We did not configure any Network parameters. A wired ethernet connection to an ONT modem (mgts GPON) was recognised and configured automatically under the name of *p2p1* .

### Boot loader

- The boot loader (GRUB2) info was recorded into the /boot partion.

### Package selection.

- All packages (including those optional) in all categories were selected: 2766 packages in total. The list is available in
  - ◆ /opt/root/Install/rpm\_history/130617.0208.rpm-qa.Initially\_installed
  - ◇ local copy

## Step 2. Adding a Fedora-17 entry to Windows 7 bootloader menu

- Done under Windows with the EasyBCD program as described, e.g., in <http://www.linuxbsdos.com/2012/07/21/how-to-add-an-entry-for-a-linux-distribution-in-windows-boot-menu/>

## Step 3. Firstboot

### Defining /usr/local and /home

- In the beginning, we entered a shell console with *Ctrl+Alt+F2* and made some renaming:

◆ /usr/local :

```

mv /usr/local /opt/usr_local
ln -s /opt/usr_local /usr/local

```

◆ /home :

```

rmdir /home
mkdir /opt/home
ln -s /opt/home /

```

### Creating account *fedotov*

- The account *fedotov* was created with
  - (user id, group id) = (501, 501)
 as it was in the *fedora 10 @ dom2* installation (purpose: to have a correct user/group for *fedotov*'s files on the internal and external disks of dom2).

This violated the recommendations of F17 to have ID's > 999, and placed the account into a user/group "*system*" *area*, such that it is not seen by default in the lists of the *system-config-users* utility (the "*hide system entries*" option in the settings should be deselected in order to make the account *fedotov* visible).

## Post-installation file-system occupancies (Mon Jun 17 01:57:22 MSK 2013)

- ```
[root@localhost ~]# df -h
```

| Filesystem | Size | Used | Avail | Use% | Mounted on |
|------------|------|------|-------|------|------------|
| rootfs     | 16G  | 9.7G | 5.2G  | 66%  | /          |
| devtmpfs   | 2.0G | 0    | 2.0G  | 0%   | /dev       |

```

tmpfs                2.0G   96K   2.0G   1% /dev/shm
tmpfs                2.0G   29M   1.9G   2% /run
/dev/mapper/vg01-lv_root1  16G   9.7G   5.2G  66% /
tmpfs                2.0G    0   2.0G   0% /sys/fs/cgroup
tmpfs                2.0G    0   2.0G   0% /media
/dev/mapper/vg01-lv_opt1   20G   570M   18G    4% /opt
/dev/mapper/vg01-lv_x01    49G   1.2G   46G    3% /x01
/dev/sda7              248M   12M   224M   5% /boot3
/dev/sda6              248M   12M   224M   5% /boot2
/dev/sda8              248M   12M   224M   5% /boot4
/dev/sda3              248M   49M   187M  21% /boot
/dev/sda2              94G   59G   35G   63% /media/Win7

```

The most interesting lines are:

```

rootfs              16G   9.7G   5.2G  66% /
/dev/mapper/vg01-lv_root1  16G   9.7G   5.2G  66% /
/dev/sda3           248M   49M   187M  21% /boot

```

## 2. (17.06.13) */x01/legacy/* directory for dom, dom2, ... stuff

- The following subdirs in */x01/legacy/* created:

- ◆ *dom/RH9/*

```

opt_root_Install -- a "cp -rp" of
                  dom2:/opt/root/dom_legacy/opt_root_Install
usr_local        -- a "cp -rp" of
                  dom2:/opt/root/dom_legacy/usr_local

```

- ◆ *dom2/F10/*

```

home/fedotov      -- for selected stuff from dom2:/home/fedotov
opt ->
  root/Install   -- a "cp -rp" of
                  dom2:/opt/root/Install
  usr_local      -- a "cp -rp" of
                  dom2:/opt/usr_local

```

## 3. (17.06.13) *~fedotov/.emacs, ~root/.emacs*

- copied from *~fedotov/.emacs* at *dom2*  
(via */x01/legacy/dom2/F10/home/fedotov/.emacs*);  
the original F17 version moved to *.emacs.original\_F17\_version*:

- ◆ *~fedotov*:

```

mv .emacs .emacs.original_F17_version
cp -rp /x01/legacy/dom2/F10/home/fedotov/.emacs .
[fedotov@localhost]~% ll .emacs
-rw-r--r--. 1 fedotov fedotov 3505 Aug 26 2010 .emacs

```

- ◆ *~root*:

```

cp -rp /x01/legacy/dom2/F10/home/fedotov/.emacs .
chown root.root .emacs
[root@localhost ~]# ll .emacs
-rw-r--r--. 1 root root 3505 Aug 26 2010 .emacs

```

## 4. (18.06.13) Firts SYSTEM UPDATE; looking at *Apper* working

- The update is done via the *Apper* tool ("*Get, Remove and Update SW*", accessible via *f -> Applications -> Administration -> SW Management*) by
  - ◆ selecting *Updates*;

- ◆ clicking "**Check for new updates**" -> 1268 packages found;
- ◆ clicking "**Apply**" -> 150 additional packages to be installed;
- ◆ waiting about 70' for the procedure to finish;
- ◆ rebooting the computer (there was a clickable icon of a message window ~"*restart required*" followed by a list of names of 15-30 packages, the window popping up when the mouse was brought over the icon).

- The occupancy of the root partition after the update:

```
[root@localhost ~]# df -h /
Filesystem              Size  Used Avail Use% Mounted on
/dev/mapper/vg01-lv_root1 16G  9.2G  5.4G  64% /
```

The min value of `Avail` was as low as 1.6G during the update. The rpm's seem to have been downloaded into subdirs of

```
/var/cache/yum/x86_64/17/
```

occupying there ~1.5-2 Gb of space which was freed in the end (the *Apper* reported of 1.6 Gb of estimated download volume).

- The total amount of installed packages is now 2904 (was 2766 initially).

The list is in

- ◆ rpm\_history/130619.0016.rpm-qa.After\_first\_update
  - ◇ local copy .

## 5. (20.06.13) Trying to switch on the *nouveau driver* i.o. *vesa* in *xorg.conf*

- The *basic video mode* was used during the initial installation.

The same mode seems to be only available afterwards: we have **1024x768** screen resolution while the monitor is

**Acer "V233HAOb" 1920x1080 (60Hz recommended)**

([https://twiki.cern.ch/twiki/pub/Main/AVFedotovHowToDom3/FCenter\\_zakaz\\_kompyutera\\_021011.html#2](https://twiki.cern.ch/twiki/pub/Main/AVFedotovHowToDom3/FCenter_zakaz_kompyutera_021011.html#2)).

- Our graphic card is **NVIDIA GeForce GTX 550 Ti**

([https://twiki.cern.ch/twiki/pub/Main/AVFedotovHowToDom3/FCenter\\_zakaz\\_kompyutera\\_021011.html#1-8](https://twiki.cern.ch/twiki/pub/Main/AVFedotovHowToDom3/FCenter_zakaz_kompyutera_021011.html#1-8)):

```
[fedotov@localhost]~/etc/X11% lspci |grep -i vga
01:00.0 VGA compatible controller: nVidia Corporation GF116 \
[GeForce GTX 550 Ti] (rev a1)
```

- F17 comes with the *nouveau driver* for *nvidia* cards:

```
[fedotov@localhost]~/etc/X11% rpm -qa |grep nouveau
xorg-x11-drv-nouveau-0.0.16-37.20120306gitf5d1cd2.fc17.x86_64
```

```
[fedotov@localhost]~/etc/X11% lsmod |grep -i nouv
nouveau                941736  0
mxm_wmi                  12865  1 nouveau
wmi                      18697  2 mxm_wmi,nouveau
video                   18991  1 nouveau
i2c_algo_bit            13257  1 nouveau
drm_kms_helper          46708  1 nouveau
ttm                     79629  1 nouveau
drm                     264481  3 ttm,drm_kms_helper,nouveau
i2c_core                 38353  6 drm,i2c_i801,drm_kms_helper,\
i2c_algo_bit,nouveau,videodev
```



- In the article "*Troubleshooting Nouveau*" (<http://nouveau.freedesktop.org/wiki/TroubleShooting/>) one finds the *Basic Question 4*:
  - ◆ "Is X using the right driver (DDX)?"
    - ◇ "Do not use ``nv`` driver in X. Use ``nouveau`` instead. If you do *not explicitly* tell X to use ``nouveau`` in ``xorg.conf``, it will usually *default* to ``nv``, or maybe even ``nvidia`` (the proprietary driver). Any X driver (e.g. ``vesa``) other than ``nouveau`` or ``fbdev`` will cause problems with KMS."

- As our `xorg.conf` does *not* contain the ``nouveau``:
 

```
[fedotov@localhost]# cat /etc/X11/xorg.conf
Section "Device"
    Identifier "Videocard0"
    Driver "vesa"
EndSection
```

we tried to change `vesa` -> `nouveau` and reboot.

Fortunately, the boot screen worked OK, but *X's did not load ...*

We could open a root console via `Ctrl+Alt+F2` and change `xorg.conf` *back to the original status*.

- There was the *log file* `/var/log/Xorg.5.log`

```
-rw-r--r--. 1 root root 9312 Jun 20 02:26 /var/log/Xorg.5.log
```

of the following content:

```
[ 21.223]
X.Org X Server 1.12.4
Release Date: 2012-08-27
[ 21.223] X Protocol Version 11, Revision 0
[ 21.223] Build Operating System: 2.6.32-358.2.1.el6.x86_64
[ 21.223] Current Operating System: Linux localhost.localdomain \
3.8.13-100.fc17.x86_64 #1 SMP Mon May 13 13:36:17 UTC \
2013 x86_64
[ 21.223] Kernel command line:
BOOT_IMAGE=/vmlinuz-3.8.13-100.fc17.x86_64 \
root=/dev/mapper/vg01-lv_root1 ro nomodeset rd.md=0 \
rd.lvm.lv=vg01/lv_swap SYSFONT=True KEYTABLE=us \
rd.lvm.lv=vg01/lv_root1 rd.luks=0 LANG=en_US.UTF-8 \
rd.dm=0 rhgb quiet
[ 21.223] Build Date: 17 April 2013 04:53:23AM
[ 21.223] Build ID: xorg-x11-server 1.12.4-7.fc17
[ 21.223] Current version of pixman: 0.28.0
[ 21.223] Before reporting problems, check http://wiki.x.org
to make sure that you have the latest version.
[ 21.223] Markers: (--) probed, (**) from config file,]
(==) default setting,
(++ from command line, (!) notice, (II) informational,
(WW) warning, (EE) error, (NI) not implemented, (??) unknown.
[ 21.223] (==) Log file: "/var/log/Xorg.5.log", \
Time: Thu Jun 20 02:26:02 2013
[ 21.224] (==) Using config file: "/etc/X11/xorg.conf"
[ 21.224] (==) Using config directory: "/etc/X11/xorg.conf.d"
[ 21.224] (==) Using system config directory \
"/usr/share/X11/xorg.conf.d"
[ 21.224] (==) No Layout section. Using the first Screen section.
[ 21.224] (==) No screen section available. Using defaults.
[ 21.224] (**) |-->Screen "Default Screen Section" (0)
[ 21.224] (**) | |-->Monitor "<default monitor>"
[ 21.224] (==) No device specified for screen "Default Screen \
```

```

        Section".
Using the first device section listed.
[ 21.224] (**) | |-->Device "Videocard0"
[ 21.224] (==) No monitor specified for screen \
        "Default Screen Section".
Using a default monitor configuration.
[ 21.224] (==) Automatically adding devices
[ 21.224] (==) Automatically enabling devices
[ 21.224] (==) FontPath set to:
catalogue:/etc/X11/fontpath.d,
built-ins
[ 21.224] (==) ModulePath set to "/usr/lib64/xorg/modules"
[ 21.224] (II) The server relies on udev to provide the list \
        of input devices.
If no devices become available, reconfigure udev or disable \
        AutoAddDevices.
[ 21.224] (II) Loader magic: 0x7c6ac0
[ 21.224] (II) Module ABI versions:
[ 21.224]     X.Org ANSI C Emulation: 0.4
[ 21.224]     X.Org Video Driver: 12.1
[ 21.224]     X.Org XInput driver : 16.0
[ 21.224]     X.Org Server Extension : 6.0
[ 21.225] (--) PCI:*(0:1:0:0) 10de:1244:10b0:0401 rev 161, \
        Mem @ 0xf6000000/33554432, 0xe0000000/134217728,\
        0xec000000/67108864, I/O @ 0x0000df00/128, \
        BIOS @ 0x????????/524288
[ 21.225] (II) LoadModule: "extmod"
[ 21.225] (II) Loading \
        /usr/lib64/xorg/modules/extensions/libextmod.so
[ 21.226] (II) Module extmod: vendor="X.Org Foundation"
[ 21.226]     compiled for 1.12.4, module version = 1.0.0
[ 21.226]     Module class: X.Org Server Extension
[ 21.226]     ABI class: X.Org Server Extension, version 6.0
[ 21.226] (II) Loading extension SELinux
[ 21.226] (II) Loading extension MIT-SCREEN-SAVER
[ 21.226] (II) Loading extension XFree86-VidModeExtension
[ 21.226] (II) Loading extension XFree86-DGA
[ 21.226] (II) Loading extension DPMS
[ 21.226] (II) Loading extension XVideo
[ 21.226] (II) Loading extension XVideo-MotionCompensation
[ 21.226] (II) Loading extension X-Resource
[ 21.226] (II) LoadModule: "dbe"
[ 21.226] (II) Loading /usr/lib64/xorg/modules/extensions/libdbe.so
[ 21.226] (II) Module dbe: vendor="X.Org Foundation"
[ 21.226]     compiled for 1.12.4, module version = 1.0.0
[ 21.226]     Module class: X.Org Server Extension
[ 21.226]     ABI class: X.Org Server Extension, version 6.0
[ 21.226] (II) Loading extension DOUBLE-BUFFER
[ 21.226] (II) LoadModule: "glx"
[ 21.226] (II) Loading /usr/lib64/xorg/modules/extensions/libglx.so
[ 21.226] (II) Module glx: vendor="X.Org Foundation"
[ 21.226]     compiled for 1.12.4, module version = 1.0.0
[ 21.226]     ABI class: X.Org Server Extension, version 6.0
[ 21.226] (==) AIGLX enabled
[ 21.226] (II) Loading extension GLX
[ 21.226] (II) LoadModule: "record"
[ 21.226] (II) Loading \
        /usr/lib64/xorg/modules/extensions/librecord.so
[ 21.227] (II) Module record: vendor="X.Org Foundation"
[ 21.227]     compiled for 1.12.4, module version = 1.13.0
[ 21.227]     Module class: X.Org Server Extension
[ 21.227]     ABI class: X.Org Server Extension, version 6.0
[ 21.227] (II) Loading extension RECORD
[ 21.227] (II) LoadModule: "dri"
[ 21.227] (II) Loading /usr/lib64/xorg/modules/extensions/libdri.so
[ 21.227] (II) Module dri: vendor="X.Org Foundation"
[ 21.227]     compiled for 1.12.4, module version = 1.0.0

```

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```
[ 21.227] ABI class: X.Org Server Extension, version 6.0
[ 21.227] (II) Loading extension XFree86-DRI
[ 21.227] (II) LoadModule: "dri2"
[ 21.227] (II) Loading \
        /usr/lib64/xorg/modules/extensions/libdri2.so
[ 21.227] (II) Module dri2: vendor="X.Org Foundation"
[ 21.227] compiled for 1.12.4, module version = 1.2.0
[ 21.227] ABI class: X.Org Server Extension, version 6.0
[ 21.227] (II) Loading extension DRI2
[ 21.227] (II) LoadModule: "nouveau"
[ 21.227] (II) Loading \
        /usr/lib64/xorg/modules/drivers/nouveau_drv.so
[ 21.228] (II) Module nouveau: vendor="X.Org Foundation"
[ 21.228] compiled for 1.12.2, module version = 0.0.16
[ 21.228] Module class: X.Org Video Driver
[ 21.228] ABI class: X.Org Video Driver, version 12.0
[ 21.228] (II) NOUVEAU driver
[ 21.228] (II) NOUVEAU driver for NVIDIA chipset families :
[ 21.228] RIVA TNT (NV04)
[ 21.228] RIVA TNT2 (NV05)
[ 21.228] GeForce 256 (NV10)
[ 21.228] GeForce 2 (NV11, NV15)
[ 21.228] GeForce 4MX (NV17, NV18)
[ 21.228] GeForce 3 (NV20)
[ 21.228] GeForce 4Ti (NV25, NV28)
[ 21.228] GeForce FX (NV3x)
[ 21.228] GeForce 6 (NV4x)
[ 21.228] GeForce 7 (G7x)
[ 21.228] GeForce 8 (G8x)
[ 21.228] GeForce GTX 200 (NVA0)
[ 21.228] GeForce GTX 400 (NVC0)
[ 21.228] (--) using VT number 2

[ 21.252] drmOpenDevice: node name is /dev/dri/card0
[ 21.258] drmOpenByBusid: Searching for BusID pci:0000:01:00.0
[ 21.258] drmOpenDevice: node name is /dev/dri/card0
[ 21.262] drmOpenByBusid: drmOpenMinor returns -1
[ 21.262] drmOpenDevice: node name is /dev/dri/card1
[ 21.266] drmOpenByBusid: drmOpenMinor returns -1
[ 21.266] drmOpenDevice: node name is /dev/dri/card2
[ 21.269] drmOpenByBusid: drmOpenMinor returns -1
[ 21.269] drmOpenDevice: node name is /dev/dri/card3
[ 21.273] drmOpenByBusid: drmOpenMinor returns -1
[ 21.273] drmOpenDevice: node name is /dev/dri/card4
[ 21.277] drmOpenByBusid: drmOpenMinor returns -1
[ 21.277] drmOpenDevice: node name is /dev/dri/card5
[ 21.281] drmOpenByBusid: drmOpenMinor returns -1
[ 21.281] drmOpenDevice: node name is /dev/dri/card6
[ 21.284] drmOpenByBusid: drmOpenMinor returns -1
[ 21.284] drmOpenDevice: node name is /dev/dri/card7
[ 21.288] drmOpenByBusid: drmOpenMinor returns -1
[ 21.288] drmOpenDevice: node name is /dev/dri/card8
[ 21.292] drmOpenByBusid: drmOpenMinor returns -1
[ 21.292] drmOpenDevice: node name is /dev/dri/card9
[ 21.296] drmOpenByBusid: drmOpenMinor returns -1
[ 21.296] drmOpenDevice: node name is /dev/dri/card10
[ 21.300] drmOpenByBusid: drmOpenMinor returns -1
[ 21.300] drmOpenDevice: node name is /dev/dri/card11
[ 21.303] drmOpenByBusid: drmOpenMinor returns -1
[ 21.303] drmOpenDevice: node name is /dev/dri/card12
[ 21.307] drmOpenByBusid: drmOpenMinor returns -1
[ 21.307] drmOpenDevice: node name is /dev/dri/card13
[ 21.311] drmOpenByBusid: drmOpenMinor returns -1
[ 21.311] drmOpenDevice: node name is /dev/dri/card14
[ 21.315] drmOpenByBusid: drmOpenMinor returns -1
[ 21.315] drmOpenDevice: node name is /dev/dri/card15
[ 21.319] drmOpenByBusid: drmOpenMinor returns -1
```

```

[ 21.319] drmOpenDevice: node name is /dev/dri/card0
[ 21.324] drmOpenDevice: node name is /dev/dri/card0
[ 21.328] drmOpenDevice: node name is /dev/dri/card1
[ 21.332] drmOpenDevice: node name is /dev/dri/card2
[ 21.335] drmOpenDevice: node name is /dev/dri/card3
[ 21.339] drmOpenDevice: node name is /dev/dri/card4
[ 21.343] drmOpenDevice: node name is /dev/dri/card5
[ 21.347] drmOpenDevice: node name is /dev/dri/card6
[ 21.351] drmOpenDevice: node name is /dev/dri/card7
[ 21.354] drmOpenDevice: node name is /dev/dri/card8
[ 21.358] drmOpenDevice: node name is /dev/dri/card9
[ 21.362] drmOpenDevice: node name is /dev/dri/card10
[ 21.366] drmOpenDevice: node name is /dev/dri/card11
[ 21.369] drmOpenDevice: node name is /dev/dri/card12
[ 21.373] drmOpenDevice: node name is /dev/dri/card13
[ 21.377] drmOpenDevice: node name is /dev/dri/card14
[ 21.381] drmOpenDevice: node name is /dev/dri/card15
[ 21.385] (EE) [drm] failed to open device
[ 21.385] (EE) No devices detected.
[ 21.385]
Fatal server error:
[ 21.385] no screens found
[ 21.385]
Please consult the Fedora Project support
at http://wiki.x.org
for help.
[ 21.385] Please also check the log file at \
"/var/log/Xorg.5.log" for additional information.
[ 21.385]

```

## 6. (20.06.13) xx, xxx scripts

- copied from *dom2 F10* to `/usr/local/bin/` :

```

cp -p /x01/legacy/dom2/F10/opt/usr_local/bin/xx* /usr/local/bin/
ll /usr/local/bin/xx*
-rwxr-xr-x. 1 root root 1162 Dec 10 2001 /usr/local/bin/xx
-rwxr-xr-x. 1 root root 311 Jan 6 2000 /usr/local/bin/xxx

```

## 7. (20.06.13) Trying to switch on the *nouveau* driver *io vesa* with *xorg.conf* generated by *Xorg*

- In section 5, we failed by changing *vesa* -> *nouveau* in the original `/etc/X11/xorg.conf` which is a very short one.
- Now we try to **generate** an `xorg.config` with *Xorg* .
- The procedure is described in "*How to create xorg.conf*" ([https://fedoraproject.org/wiki/How\\_to\\_create\\_xorg.conf](https://fedoraproject.org/wiki/How_to_create_xorg.conf)):

```
Xorg :1 -configure
```

creates the file

```
/root/xorg.conf.new .
```

### Step 1 : Xorg :1 -configure

- This indeed created the `xorg.conf.new` (see [here](#)) which we placed into `Inst_SW_aux/130620.Xorg-configure` directory.

- Xorg-produced *stdout* output has been copied to `Xorg-configure.out` (see here) .

It ends with:

```
"Number of created screens does not match number of detected
devices.
Configuration failed.
Server terminated with error (2). Closing log file.
".
```

The `Xorg-configure.out` also mentions the log file

```
/var/log/Xorg.1.log
```

which we copied into

```
Xorg.1.log_from_Xorg-configure (see here) .
```

## Step 2. Editing the generated *conf* file

*Despite* the message "*Configuration failed*", we try to continue.

The `xorg.conf.new` contains:

```
3 Monitor sections
3 Device sections corresponding to driver/Id combinations
  nouveau / Card0 ,
  fbdev   / Card1 ,
  vesa    / Card2 .
respectively,
3 Screen sections
```

We commented out the *second* and *third* Sections for *Monitor*, *Device* and *Screen* (also left only *one Screen* in the Section "*ServerLayout*") and put the result into

```
xorg.conf.new.edited (see here)
```

## Step 3: Try `xorg.conf.new.edited`

- We do:
  - ◆ copy `xorg.conf.new.edited` to `/etc/X11/xorg.conf`
  - ◆ reboot

The results is a failure that is very similar to the one obtained in section 5: the

```
Xorg.5.log (see here)
```

again contains a fatal message

```
"(EE) [drm] failed to open device
(EE) No devices detected.
Fatal server error:
no screens found
"
```

which again seems to be related to the absence of device files

```
/dev/dri/card0 , ... , /dev/dri/card15
```

- There are also files
  - `boot.log` (see here)
  - `session_last_screen` (see here) -- a correctly formatted end of `boot.log`

**Step 4: Restore the original `/etc/X11/xorg.conf` and reboot**

- Note that we keep a copy of the *original file* in `/etc/X11/xorg.conf`

**7B. (21.06.13) Boot without `/etc/X11/xorg.conf`**

- In "*Ne startuyut X s nouveau drajverom (ru)*" ("*X with a nouveau driver does not start*"), <http://www.linux.org.ru/forum/general/5979844>, the *removal* of the `xorg.conf` file is recommended as a remedy.
- So we tried this mode. X started OK, but in the same `1024x768` mode as earlier. The *Xorg log file* is in `Inst_SW_aux/130621.Xorg.0.log.booot_without_xorg_conf` (see here)
  - ◆ *nouveau* was loaded but *ignored* (?) for some reason
  - ◆ `/dev/dri/card.`... seem to have been investigated for the *fbdev* module/driver; the "conclusion" was:

```
"(EE) [drm] failed to open device
(WW) Falling back to old probe method for fbdev
"
```

- ◆ *VESA* seems to be selected finally?

- The original `xorg.conf` was restored after the exercise.

**8. (22.06.13) Try *nouveau* driver with `/dev/dri/card0` created manually**

In sections 5 and 7, the attempts to start the *nouveau* video driver failed formally due to an absence of the `/dev/dri/card0`, .../card15 files. What if we create the `/dev/dri/card0` manually?

**how to add `/dev/dri/card0` ?**

- google search: */dev/dri/card0 how to add*  
->  
<http://www.daemon-systems.org/man/radeondrm.4.html>
  - ◆ a man DRM(4) from NetBSD Kernel Interfaces Manual
- The man page above contains the following text (absent in the F17 "*man drm*"):
 

```
"X(7) will attempt to create the device node automatically.
To create the device node manually:
```

```
mkdir -p /dev/dri
mknod /dev/dri/card0 c 180 0
chgrp wheel /dev/dri/card0
chmod 0660 /dev/dri/card0
```

To enable DRI in the X configuration add the following to either `xorg.conf` for `Xorg(1)` or `XF86Config` for `XFree86(1)` :

```
Section "Module"
    ...
    Load "dri"
    Load "dri2"
    Load "glx"
EndSection
...
Section "DRI"
    Group "wheel"
    Mode 0660
EndSection
```

"

- Why not to try this for the F17 nouveau driver?
- One question is about the group `wheel` which is present in F17 but w/o any Group Member :
  - ◆ *leave the file in the `root` group but set the mode 0666 i.o. 0660 permitting the rw access to everyone?*
- Another question is
  - ◆ *what should be the the last two parameters of the `mknod` command in our case?*
- They are MAJOR and MINOR device numbers.
- google search *`how to find major and minor for mknod fedora 17`*
  - ◆ -> <http://timocharis.com/help/udev.html>

```
"So where did I get the major and minor numbers? You'll find them
in your kernel source directory under Documentation/devices.txt
-- you have a recent kernel source handy, right? If not, you can
score at http://www.kernel.org/pub/linux/docs/device-list/
```

```
A caution: the device itself will be the first number listed.
So if you search the device list for /dev/sd and find sdb, you'll
note its major number is block 8 (that's fine) and the minor
numbers are 16-31 (because sdc starts with 32). However, the
device itself (/dev/sdb) has the minor number 16; the first
partition (dev/sdb1) gets the minor number 17. The second
partition (dev/sdb2) gets 18, etc. An off-by-one error is
entirely too possible here.
"
```

◇ -> the url <http://www.kernel.org/pub/linux/docs/device-list/>  
does not exist!

◇ -> google search: *`linux device-list`*

· ->

[http://en.wikipedia.org/wiki/Linux\\_Assigned\\_Names\\_and\\_Numbers\\_Authority](http://en.wikipedia.org/wiki/Linux_Assigned_Names_and_Numbers_Authority)

- -> The Linux Assigned Names And Numbers Authority

<http://lanana.org/>

- ◆ -> The Linux Device List

◇ -> Current Linux 2.6+ Device List 06 April 2009

<http://lanana.org/docs/device-list/devices-2.6+.txt>

· -> find /dev/dri ->

```
"226 char Direct Rendering
                                0 = /dev/dri/c
                                1 = /dev/dri/c
                                ...
"
```

- -> CAN THE NUMBERS 226,0 BE ASSUMED TO BE THE SEARCHED MAJOR,MINOR PAIR?

◆ -> searching for /dev/sd in the list, gives

"8 block

"

which nicely agrees with the second paragraph of the quotation from <http://timocharis.com/help/udev.html> above.

So the assumption may well be valid!

- -> google search ``mknod /dev/dri/card0 c 226 0'` gives many hits

- ◆ -> e.g. <http://forums.freebsd.org/archive/index.php/t-173.html>

in the following context (quite reminding our case):

```
"173. drm
174. Fai
   /de
175. Fai
   /de
176. drm
   or
. . .
The devi
Try star
Please se
link to
If it is

This is
cleaned
if X can
"
```

The warning **"THE NODE WILL BE CLEANED OUT AFTER A REBOOT"** should be noted !?

### Trial 1

- `mkdir -p /dev/dri`  
`mknod /dev/dri/card0 c 226 0`  
with the vesa driver
  - ◆ reboot -> started as usual; `/dev/dri/` directory **disappeared!**

- May be the ownership by the group **wheel** would save the file?

### Trial 2

- `mkdir -p /dev/dri`  
`mmknod /dev/dri/card0 c 226 0`  
`mchgrp wheel /dev/dri/card0`  
`mchmod 0660 /dev/dri/card0`



and add to the original `/etc/X11/xorg.conf` with "vesa" driver:

```
Section "DRI"
    Group "wheel"
    Mode 0660
EndSection
```

- ◆ reboot -> started as usual; `/dev/dri/` directory *again disappeared!*

### Trial 3

- No hope to preserve the `/dev/dri/card0` card, but, nevertheless, try as in Trial 2, but with *vesa->nouveau* replacement in `/etc/X11/xorg.conf`

- ◆ reboot
- ◆ Xorg hangs spitting the `boot.log` to the screen, as it was earlier (section 5.) w/o trying to create `/dev/dri/card0` manually.  
`/dev/dri/` directory *disappeared again!*  
The `Xorg.log` is saved to  
`Inst_SW_aux/130622.Xorg.5.log.nouveau_io_vesa_in_xorg_conf` (see here)  
Xorg experienced the old fatal error:

```
(EE) [drm] failed to open device
(E) No devices detected.
Fatal server error: no screens found
```

- ◆ `/etc/x11/xorg.conf` *restored* to the original state

## 9. (25.06.13) System Update

- Update done with *Apper* and *Fedora repos*.
- 34 rpm's have been updated.  
Details in:  
`rpm_history/130625.0059.rpm-qa.After_sys_update` (see here)
- The *Apper* got broken in the end.
  - ◆ First it said something like "*module setting changed, want to update?*"
  - ◆ I answered "*Yes*". Then it started to infinitely show "*Waiting for other task...*". I cancelled this finally, then exited answering "*No*" (or was it "*Discard*"?) on the same question on changed settings...
  - ◆ When started next time, it can not finish a *Check for new updates*; also can not show the list of Installed sw...
  - ◆ After a reboot the *Apper* is OK.
  - ◆ The reason for the malfunctioning MAY have been an update of the `selinux-policy` package (3.10.0-169 -> 3.10.0-170) ?

## 10. (25.06.13) nvidia proprietary video driver

- The reasons to try to install the **PROPRIETARY NVIDIA DRIVER** are:
  - ◆ too low (1024x768) screen resolution under the *default vesa* driver,
  - ◆ a *failure* to enable the **FREE NOUVEAU nvidia-driver**.
- Searching for the ways to improve the screen resolution, such recipes occur as
  - ◆ "*Setting/Forcing/Changing Fedora 15 screen resolution to optimum*"  
(<http://tech.isatya.in/post/9090316930/setting-forcing-changing-fedora-15-screen-resolution>)

involving tuning of the `xorg` settings.... (commands ``cvt``, ``xrandr`` ... ). By the way, the role of video driver is not clear here...

- Other recipes advocate for the nvidia proprietary driver.

E.g., in

*"booting on Fedora 17/18 with basic video mode"*

(<http://fedora.12.x6.nabble.com/booting-on-Fedora-17-18-with-basic-video-mode-td4998289.html>)

the following situation is described, which look very similar to ours:

"When i boot on Fedora CD/DVD (whatever it is as version 17/18) result of a blank screen.  
To be able to install i need to install with troubleshooting mode and "run in basic graphic mode"

I have a nvidia graphic card so i guess here is the problem.  
Is there a solution to run in a better resolution than what basic graphic mode propose ?

If not, i guess i must setup video resolution manually in `x11` conf.  
Where can i find a good tutorial for that point ? because when i tried Fed17 i had the same problem and i was not able to setup video correctly so i got a blank screen from restart :(

"

The answer is (01/30/2013 02:41 PM, Raf Roger):

"

Guides for installing the proprietary Nvidia driver are

here (AF: **Guide\_1**):

<http://rpmfusion.org/Howto/nVidia>

*"Howto/ nVidia"*

and

here (AF: **Guide\_2**):

<http://forums.fedoraforum.org/showthread.php?t=280750>

*"F16 and F17 Howto for the rpmfusion nvidia drivers"*

They outline two different ways to get to the same goal.

I've had success with the first method, while others have not and prefer the second.

The driver should boot your display in the correct resolution, so it's unlikely that you will need to edit `xorg.conf` to set that.

"

I liked the promise, googled for *"fedora 17 nvidia driver install"*

and found a quite clear **Guide\_3** (similar to *Guide\_2*?)

*"Fedora 17 nVidia Drivers Install Guide (disable nouveau driver)"*

<http://www.if-not-true-then-false.com/2012/fedora-17-nvidia-guide/>

(a "related post"

*"Fedora 18 nVidia Drivers Install / Uninstall Guide"*

<http://www.if-not-true-then-false.com/2013/fedora-18-nvidia-guide/>

also to be noted for the future).

It suggests a 6-steps procedure for a video card which is on the list of supported chips

[ftp://download.nvidia.com/XFree86/Linux-x86\\_64/290.10/README/supportedchips.html](ftp://download.nvidia.com/XFree86/Linux-x86_64/290.10/README/supportedchips.html)

(my *"GeForce GTX 550 Ti"* is there, with *Device PCI ID = 0x1244* and *VDPAU features = C*, whatever these mean...):

1. Change to `_root'` user (``su -'` or ``sudo -i'`)
2. Make sure that you are running *latest kernel* and have *latest SELinux policy* packages

```
yum update kernel* selinux-policy*
reboot
```

3. Add *RPMFusion Repositories (Free and Non-Free), (32-bit and 64-bit)*

```
yum localinstall --nogpgcheck http://download1.rpmfusion.org/free/fedora/
yum localinstall --nogpgcheck http://download1.rpmfusion.org/nonfree/fedora/
```

4. *Install nVidia proprietary drivers* for GeForce 6/7/8/9/200/300/400/500 series cards (AF: selecting the ``akmod'` from the `akmod`, `kmod` or `kmod-PAE` options and omitting an extra command for `kernel-PAE` users):

```
yum install akmod-nvidia xorg-x11-driv-nvidia-libs
```

◇ Comment by the authors: *akmod* is good option and easy way avoid problems on kernel updates and is best and only option if you use:

- self-compiled kernel
- older Fedora kernel
- quickly changing kernels from updates-testing/rawhide

5. *Remove / disable nouveau drivers* from kernel *initramfs*

```
## Backup old initramfs nouveau image ##
mv /boot/initramfs-$(uname -r).img \
    /boot/initramfs-$(uname -r)-nouveau.img
```

(AF: in my case the existing *initramfs* image may be related not to the *nouveau* but *vesa*?)

```
## Create new initramfs image ##
dracut /boot/initramfs-$(uname -r).img $(uname -r)
```

6. All is done and then just reboot

```
reboot
```

Now try to execute step by step.

## Step 1. trivial

### Step 2

- We have just done the system update (section 9), but just in case:

```
[root@localhost opt_root_Install]# yum update kernel* selinux-policy*
Loaded plugins: langpacks, presto, refresh-packagekit
No Packages marked for Update
```

### Step 3a

- [root...]`# yum localinstall --nogpgcheck http://download1.rpmfusion.org/free/fedora/`

```
| Loaded plugins: langpacks, presto, refresh-packagekit
| rpmfusion-free-release-stable.noarch.rpm | 19 kB 00:00
| Examining /var/tmp/yum-root-zWgv9E/rpmfusion-free-release-stable.noarch.rpm: rpmfu
| Marking /var/tmp/yum-root-zWgv9E/rpmfusion-free-release-stable.noarch.rpm to be in
| Resolving Dependencies
| --> Running transaction check
| ---> Package rpmfusion-free-release.noarch 0:17.0.5-1 will be installed
| --> Finished Dependency Resolution
```

```

|
| Dependencies Resolved
|
| =====
| Package           Arch   Version  Repository                               Size
| =====
| Installing:
|   rpmfusion-free-release
|                               noarch 17.0.5-1 /rpmfusion-free-release-stable.noarch 9.9 k
|
| Transaction Summary
| =====
| Install 1 Package
|
| Total size: 9.9 k
| Installed size: 9.9 k
| Is this ok [y/N]: y
| Downloading Packages:
| Running Transaction Check
| Running Transaction Test
| Transaction Test Succeeded
| Running Transaction
|   Installing : rpmfusion-free-release-17.0.5-1.noarch           1/1
|   Verifying  : rpmfusion-free-release-17.0.5-1.noarch           1/1
|
| Installed:
|   rpmfusion-free-release.noarch 0:17.0.5-1
|
| Complete!

```

◆ **AF Notes:**

1. *Apper -> Settings -> Software Origins:*  
4 new repos added:

```

[checked   ] RPM Fusion for Fedora 17 - Free
[NOT checked] RPM Fusion for Fedora 17 - Free -Test Updates
[checked   ] RPM Fusion for Fedora 17 - Free - Updates
[NOT checked] RPM Fusion for Fedora Rawhide - Free

```

2. **rpm -qa** shows exactly one additional package:

**rpmpfusion-free-release-17.0.5-1.noarch**

**Step 3b**

- [root... ]# yum localinstall --nogpgcheck http://download1.rpmfusion.org/nonfree/fedora/
 

```

| Loaded plugins: langpacks, presto, refresh-packagekit
| rpmpfusion-nonfree-release-stable.noarch.rpm           | 19 kB      00:00
| Examining /var/tmp/yum-root-zWgv9E/rpmpfusion-nonfree-release-stable.noarch.rpm: rpm
| Marking /var/tmp/yum-root-zWgv9E/rpmpfusion-nonfree-release-stable.noarch.rpm to be
| Resolving Dependencies
| --> Running transaction check
| ---> Package rpmpfusion-nonfree-release.noarch 0:17.0.5-1 will be installed
| --> Finished Dependency Resolution
|
| Dependencies Resolved
|
| =====
| Package           Arch   Version  Repository                               Size
| =====
| Installing:
|   rpmpfusion-nonfree-release
|                               noarch 17.0.5-1 /rpmfusion-nonfree-release-stable.noarch 10 k

```

```

|
| Transaction Summary
| =====
| Install 1 Package
|
| Total size: 10 k
| Installed size: 10 k
| Is this ok [y/N]: y
| Downloading Packages:
| Running Transaction Check
| Running Transaction Test
| Transaction Test Succeeded
| Running Transaction
|   Installing : rpmfusion-nonfree-release-17.0.5-1.noarch           1/1
|   Verifying  : rpmfusion-nonfree-release-17.0.5-1.noarch           1/1
|
| Installed:
|   rpmfusion-nonfree-release.noarch 0:17.0.5-1
|
| Complete!

```

◆ **AF Notes:**

1. Apper -> Settings -> Software Origins:

4 new repos added:

```

[checked      ] RPM Fusion for Fed.17 - Nonfree
[NOT checked] RPM Fusion for Fed.17 - Nonfree -Test Updates
[checked      ] RPM Fusion for Fed.17 - Nonfree - Updates
[NOT checked] RPM Fusion for Fed.Rawhide - Nonree

```

2. **rpm -qa** shows exactly one additional package

**rpmpfusion-nonfree-release-17.0.5-1.noarch**  
(2906 installed packages in total)

• **'Rpm -qa'** output saved to:

rpm\_history/130625.0333.rpm-qa.rpmpfusion\_repos\_configured (see here)

## Step 4

- ```
[root... ]# yum install akmod-nvidia xorg-x11-drv-nvidia-libs
```

```

| Loaded plugins: langpacks, presto, refresh-packagekit
| Resolving Dependencies
| --> Running transaction check
| ---> Package akmod-nvidia.x86_64 1:304.88-1.fc17 will be installed
| --> Processing Dependency: nvidia-kmod-common >= 1:304.88 for package: 1:akmod-nvi
| --> Processing Dependency: akmods for package: 1:akmod-nvidia-304.88-1.fc17.x86_64
| --> Processing Dependency: kmodtool for package: 1:akmod-nvidia-304.88-1.fc17.x86_
| ---> Package xorg-x11-drv-nvidia-libs.x86_64 1:304.88-2.fc17 will be installed
| --> Running transaction check
| ---> Package akmods.noarch 0:0.4.0-4.fc17 will be installed
| ---> Package kmodtool.noarch 0:1-22.fc17 will be installed
| ---> Package xorg-x11-drv-nvidia.x86_64 1:304.88-2.fc17 will be installed
| --> Processing Dependency: nvidia-settings for package: 1:xorg-x11-drv-nvidia-304.
| --> Processing Dependency: nvidia-xconfig for package: 1:xorg-x11-drv-nvidia-304.8
| --> Running transaction check
| ---> Package nvidia-settings.x86_64 0:1.0-22.fc17 will be installed
| ---> Package nvidia-xconfig.x86_64 0:1.0-20.fc17 will be installed
| --> Finished Dependency Resolution
|
| Dependencies Resolved

```

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```

=====
| Package                Arch    Version                Repository              Size
|=====
| Installing:
| akmod-nvidia           x86_64 1:304.88-1.fc17      rpmfusion-nonfree-updates 6.5 M
| xorg-x11-drv-nvidia-libs
|                        x86_64 1:304.88-2.fc17      rpmfusion-nonfree-updates 22 M
| Installing for dependencies:
| akmods                 noarch 0.4.0-4.fc17         rpmfusion-free          18 k
| kmodtool               noarch 1-22.fc17           rpmfusion-free-updates 13 k
| nvidia-settings       x86_64 1.0-22.fc17         rpmfusion-nonfree-updates 681 k
| nvidia-xconfig        x86_64 1.0-20.fc17         rpmfusion-nonfree-updates 83 k
| xorg-x11-drv-nvidia   x86_64 1:304.88-2.fc17      rpmfusion-nonfree-updates 2.5 M
|
| Transaction Summary
|=====
| Install 2 Packages (+5 Dependent packages)
|
| Total download size: 31 M
| Installed size: 111 M
| Is this ok [y/N]: y
| Downloading Packages:
| warning: rpmts_HdrFromFdno: Header V3 RSA/SHA256 Signature, key ID 8296fa0f: NOKEY
| Public key for akmods-0.4.0-4.fc17.noarch.rpm is not installed
| (1/7): akmods-0.4.0-4.fc17.noarch.rpm | 18 kB 00:00
| Public key for kmodtool-1-22.fc17.noarch.rpm is not installed
| (2/7): kmodtool-1-22.fc17.noarch.rpm | 13 kB 00:00
| warning: rpmts_HdrFromFdno: Header V3 RSA/SHA256 Signature, key ID d2382b83: NOKEY
| Public key for nvidia-settings-1.0-22.fc17.x86_64.rpm is not installed
| (3/7): nvidia-settings-1.0-22.fc17.x86_64.rpm | 681 kB 00:01
| (4/7): nvidia-xconfig-1.0-20.fc17.x86_64.rpm | 83 kB 00:01
| (5/7): akmod-nvidia-304.88-1.fc17.x86_64.rpm | 6.5 MB 00:05
| (6/7): xorg-x11-drv-nvidia-304.88-2.fc17.x86_64.rpm | 2.5 MB 00:28
| (7/7): xorg-x11-drv-nvidia-libs-304.88-2.fc17.x86_64.rpm | 22 MB 00:33
|-----
| Total                                957 kB/s | 31 MB 00:33
| Retrieving key from file:///etc/pki/rpm-gpg/RPM-GPG-KEY-rpmfusion-nonfree-fedora-17-x86_64
| Importing GPG key 0xD2382B83:
| Userid      : "RPM Fusion nonfree repository for Fedora (17) <rpmfusion-buildsys@list.fedoraproject.org>"
| Fingerprint: 6edf 41e4 8312 dfd4 521b 78fb 0dd6 34bd d238 2b83
| Package     : rpmfusion-nonfree-release-17.0.5-1.noarch (@/rpmfusion-nonfree-release-stable)
| From        : /etc/pki/rpm-gpg/RPM-GPG-KEY-rpmfusion-nonfree-fedora-17-x86_64
| Is this ok [y/N]: y
| Retrieving key from file:///etc/pki/rpm-gpg/RPM-GPG-KEY-rpmfusion-free-fedora-17-x86_64
| Importing GPG key 0x8296FA0F:
| Userid      : "RPM Fusion free repository for Fedora (17) <rpmfusion-buildsys@list.fedoraproject.org>"
| Fingerprint: 136e 4941 0345 140b 89fe a464 daab 8b88 8296 fa0f
| Package     : rpmfusion-free-release-17.0.5-1.noarch (@/rpmfusion-free-release-stable)
| From        : /etc/pki/rpm-gpg/RPM-GPG-KEY-rpmfusion-free-fedora-17-x86_64
| Is this ok [y/N]: y
| Running Transaction Check
| Running Transaction Test
| Transaction Test Succeeded
| Running Transaction
|   Installing : kmodtool-1-22.fc17.noarch                                1/7
|   Installing : akmods-0.4.0-4.fc17.noarch                               2/7
|   Installing : nvidia-xconfig-1.0-20.fc17.x86_64                       3/7
|   Installing : nvidia-settings-1.0-22.fc17.x86_64                     4/7
|   Installing : 1:akmod-nvidia-304.88-1.fc17.x86_64                     5/7
|   Installing : 1:xorg-x11-drv-nvidia-libs-304.88-2.fc17.x86_64         6/7
|   Installing : 1:xorg-x11-drv-nvidia-304.88-2.fc17.x86_64             7/7
|   Verifying  : nvidia-settings-1.0-22.fc17.x86_64                     1/7
|   Verifying  : kmodtool-1-22.fc17.noarch                               2/7
|   Verifying  : 1:akmod-nvidia-304.88-1.fc17.x86_64                   3/7
|   Verifying  : 1:xorg-x11-drv-nvidia-304.88-2.fc17.x86_64            4/7
|   Verifying  : 1:xorg-x11-drv-nvidia-libs-304.88-2.fc17.x86_64      5/7
|   Verifying  : akmods-0.4.0-4.fc17.noarch                             6/7

```

```
| Verifying   : nvidia-xconfig-1.0-20.fc17.x86_64
|
| Installed:
|   akmod-nvidia.x86_64 1:304.88-1.fc17
|   xorg-x11-drv-nvidia-libs.x86_64 1:304.88-2.fc17
|
| Dependency Installed:
|   akmods.noarch 0:0.4.0-4.fc17
|   kmodtool.noarch 0:1-22.fc17
|   nvidia-settings.x86_64 0:1.0-22.fc17
|   nvidia-xconfig.x86_64 0:1.0-20.fc17
|   xorg-x11-drv-nvidia.x86_64 1:304.88-2.fc17
|
| Complete!
```

- `rpm -qa' snapshot:

- ◆ rpm\_history/130625.0353.rpm-qa.nvidia\_video\_driver\_installed (see here)

- ◇ 2916 rpm's in total

- ◇ just added **10 new packages**:

```
akmod-nvidia-304.88-1.fc17.x86_64
akmods-0.4.0-4.fc17.noarch
gpg-pubkey-8296fa0f-4ea867c3
gpg-pubkey-d2382b83-4ea86889
kmod-nvidia-3.8.13-100.fc17.x86_64-304.88-1.fc17.x86_64
kmodtool-1-22.fc17.noarch
nvidia-settings-1.0-22.fc17.x86_64
nvidia-xconfig-1.0-20.fc17.x86_64
xorg-x11-drv-nvidia-304.88-2.fc17.x86_64
xorg-x11-drv-nvidia-libs-304.88-2.fc17.x86_64
```

## Step 5

- Check what exactly we are going to rename:

```
[root... ]# ll /boot/initramfs-$(uname -r).img
-rw-----. 1 root root 21270519 Jun 18 23:54 /boot/initramfs-3.8.13-100.fc17.x86_64

[fedotov@localhost]~% rpm -qf /boot/initramfs-3.8.13-100.fc17.x86_64.img
kernel-3.8.13-100.fc17.x86_64
```

- Rename:

```
[root... ]# mv /boot/initramfs-$(uname -r).img \
              /boot/initramfs-$(uname -r)-nouveau.img
```

- Create new initramfs image:

```
[root... ]# dracut /boot/initramfs-$(uname -r).img $(uname -r)
(no std output!)
```

- Check what we got:

```
[root... ]# ll /boot/initramfs-$(uname -r)*
-rw-----. 1 root root 21326475 Jun 25 04:08 /boot/initramfs-3.8.13-100.fc17.x86_64
-rw-----. 1 root root 21270519 Jun 18 23:54 /boot/initramfs-3.8.13-100.fc17.x86_64
```

## Step 6 -- reboot 1

- Xorg could not start.

- /var/log/Xorg.5.log finished with

```
"(EE) Device(s) detected, but none match those in the config file.
Fatal server error:
no screens found
"
```

- Some *log files* are saved in

```
Inst_SW_aux/130625.nvidia/boot01/ :
[root@localhost opt_root_Install]# ls Inst_SW_aux/130625.nvidia/boot01/
boot.log.gz  messages.gz  Xorg.5.log.gz
```

(see here: boot..., mess..., Xorg... )

- **/etc/x11/xorg.conf did not change!** It still contained driver `_"vesa"`:

```
Section "Device"
    Identifier "Videocard0"
    Driver "vesa"
EndSection
```

- Fortunately, the *new file* `/etc/x11/nvidia-xorg.conf` was *noticed*.

```
[fedotov@localhost]~% ll /etc/X11/nvidia-xorg.conf
-rw-r--r--. 1 root root 111 Nov  2  2010 /etc/X11/nvidia-xorg.conf
```

```
[fedotov@localhost]~% cat /etc/X11/nvidia-xorg.conf
# RPM Fusion - nvidia-xorg.conf
#
Section "Device"
    Identifier "Videocard0"
    Driver      "nvidia"
EndSection
```

## Step 7 -- UNDESCRIBED, THE HELL!

- `/etc/x11/nvidia-xorg.conf` was *copied* to `/etc/x11/xorg.conf`
- reboot 2
- EUREKA! We booted to the recommended resolution of 1024x1080 (AF 17.10.13: the 1024x1080 seems to be a *typo*, should read 1920x1080 ?)
- The *log files* of this correct boot are saved in

```
Inst_SW_aux/130625.nvidia/boot02/ :
```

```
[root@localhost opt_root_Install]# ls Inst_SW_aux/130625.nvidia/boot02/
boot.log.gz  messages.gz  Xorg.0.log.gz
```

(see here: boot..., mess..., Xorg... )

## 11. (25.06.13) rpmfusion repo configuration

- Done in section 10 -- see Steps 3a,3b there.

## 12. (29.06.13) Set labels to standard partitions /dev/sda\*

- Having labels set is convenient for too reasons:
  - ◆ *dolphin* describes a partition *by label* in the list `"Devices"`, in case the label is set, otherwise it is referred to by the size, e.g. `_"250.0 MiB Hard Drive_"`;
  - ◆ the labels simplify the *partition identification* in the *Fedora 18 installer*.
- We have 4 unlabeled `/dev/sda*` partitions:

```
[fedotov@localhost]~% df -h |grep sda | sort
/dev/sda3          239M   88M  139M  39% /boot
/dev/sda6          239M  2.1M  224M   1% /boot2
/dev/sda7          239M  2.1M  224M   1% /boot3
/dev/sda8          239M  2.1M  224M   1% /boot4
```



- We assign them the labels **BOOT1**, ..., **BOOT4** respectively:

```
[root@...]# e2label /dev/sda3 BOOT1
[root@...]# e2label /dev/sda6 BOOT2
[root@...]# e2label /dev/sda7 BOOT3
[root@...]# e2label /dev/sda8 BOOT4
```

- Now all the **sda\*** partitions have labels but for the **sda5** which is the *Physical Volume* for the LVM Volume Group `vg01`:

```
[root@localhost opt_root_Install1]# blkid |grep sda
/dev/sda1: LABEL="System [Don't Touch]" UUID="F828C44D28C40C96" TYPE="ntfs"
/dev/sda2: LABEL="Win7" UUID="C2E6C562E6C55777" TYPE="ntfs"
/dev/sda3: UUID="a984859d-099b-4fc7-a5bd-c0330eee186f" TYPE="ext4" LABEL="BOOT1"
/dev/sda5: UUID="0Yptz3-QJ1d-qhg0-HEqa-nD9p-jKse-RUy1Jc" TYPE="LVM2_member"
/dev/sda6: UUID="adefa6ae-ccda-4c58-8f26-214fef90236e" TYPE="ext4" LABEL="BOOT2"
/dev/sda7: UUID="eea0a12e-a855-4327-9ac6-4d79d1659c3f" TYPE="ext4" LABEL="BOOT3"
/dev/sda8: UUID="a1b1e9df-dbb0-4dad-9f55-cf2c359ebe60" TYPE="ext4" LABEL="BOOT4"
```

### 13. (29.06.13) Set labels to LVM ext4 partitions /dev/vg0\*

- We continue (finish) here the task of the previous section 12 .
- Get list of all the LVM partitions:

```
[root@...]# ls /dev/vg01
lv_opt1 lv_root1 lv_swap lv_x01
```

- The **lv\_swap** is *not an ext4* file system. The other are. Set:

```
[root@...]# e2label /dev/vg01/lv_opt1 LV1-OPT1
[root@...]# e2label /dev/vg01/lv_root1 LV1-ROOT1
[root@...]# e2label /dev/vg01/lv_x01 LV1-X01
```

- Check:

```
[root@localhost ~]# blkid |grep vg01
/dev/mapper/vg01-lv_root1: UUID="2ae2f462-6fe5-4427-b8e6-faa7dcaf004d" \
    TYPE="ext4" LABEL="LV1-ROOT1"
/dev/mapper/vg01-lv_swap: UUID="be1bcd3a-b9d6-450f-8d99-98aa44092e9f" \
    TYPE="swap"
/dev/mapper/vg01-lv_x01: UUID="b7e9002e-ef88-48eb-b0a7-88cdb9bdebc8" \
    TYPE="ext4" LABEL="LV1-X01"
/dev/mapper/vg01-lv_opt1: UUID="c820e6bc-3c3a-4057-8b8c-bab76258970b" \
    TYPE="ext4" LABEL="LV1-OPT1"
```

- Unfortunately, *'dolphin'* (version 2.2 under KDE 4.10.2) does not show the above labels, continuing to call the partitions with boring names "*< size > Hard Drive*" (e.g. `vg01-lv_x01` is "*48.8 GiB Hard Drive*").

A similar bug in archlinux distro has been discussed in

<https://bbs.archlinux.org/viewtopic.php?id=143437>; there is a claim that the bug should be fixed in KDE 4.10 (our version!).

### 14.(29.06.13) Extending swap LVM logical volume from 4000 to 8000

- The swap volume is currently *~4Gb*:

```
[root@...]# lvdisplay vg01/lv_swap
--- Logical volume ---
LV Path                /dev/vg01/lv_swap
LV Name                lv_swap
VG Name                vg01
LV UUID                EDokwn-VIH7-U1f1-seEg-Xuzf-wDa3-bSqJbX
LV Write Access        read/write
```

```

LV Creation host, time localhost.localdomain,2013-06-12 06:31:34 +0400
LV Status              available
# open                 2
LV Size                3.91 GiB
Current LE             1000
Segments               1
Allocation             inherit
Read ahead sectors    auto
 - currently set to   256
Block device           253:1
    
```

- It is OK for our 4GB RAM in Fedora 17.

However, Fedora 18 requires 8 GB in case the *hybernation mode* is envisaged

([http://docs.fedoraproject.org/en-US/Fedora/18/html/Installation\\_Guide/s2-diskpartrecommen-x86.html](http://docs.fedoraproject.org/en-US/Fedora/18/html/Installation_Guide/s2-diskpartrecommen-x86.html)):

Amount of RAM in the system	Recommended swap space	Recommended swap space if allowing for hibernation
2GB - 8GB	Equal to the amount of RAM	2 times the amount of RAM

- Preparing to F18 installation, we **need to extend the volume** by extra 4000 MiB.

- We follow the instruction in

[https://twiki.cern.ch/twiki/bin/view/Main/AVFedotovHowTo#Extending\\_Swap\\_on\\_an\\_LVM2\\_Logica](https://twiki.cern.ch/twiki/bin/view/Main/AVFedotovHowTo#Extending_Swap_on_an_LVM2_Logica)

- Do the task:

```

[root@...]# swapoff -v /dev/vg01/lv_swap
swapoff on /dev/vg01/lv_swap

[root@...]# lvm lvresize /dev/vg01/lv_swap -L +4000M
Extending logical volume lv_swap to 7.81 GiB
Logical volume lv_swap successfully resized

[root@...]# mkswap /dev/vg01/lv_swap
mkswap: /dev/vg01/lv_swap: warning: don't erase bootbits sectors
on whole disk. Use -f to force.
Setting up swappiness version 1, size = 8191996 KiB
no label, UUID=e0c9ec8d-9f63-46d4-ba4c-dc3d78f0e215

[root@...]# swapon -va
swapon on /dev/mapper/vg01-lv_swap
swapon: /dev/mapper/vg01-lv_swap: found swap signature: version 1, \
page-size 4, same byte order
swapon: /dev/mapper/vg01-lv_swap: pagesize=4096, swappiness=8388608000, \
devsize=8388608000
    
```

- Do checks:

```

[root@...]# cat /proc/swaps
Filename                                Type              Size      Used      Priority
/dev/dm-1                                partition         8191996  0         -1

[root@...]# free -b
total          used          free    shared    buffers     cached
Mem:    4129349632 2035175424 2094174208         0   76824576  778477568
-/+ buffers/cache: 1179873280 2949476352
Swap:    8388603904         0 8388603904

[root@...]# lvdisplay vg01/lv_swap
--- Logical volume ---
LV Path                /dev/vg01/lv_swap
LV Name                lv_swap
VG Name                vg01
    
```

```

LV UUID                EDokwn-VIH7-Ulfl-seEg-Xuzf-wDa3-bSqJbX
LV Write Access        read/write
LV Creation host, time localhost.localdomain,2013-06-12 06:31:34 +0400
LV Status              available
# open                 2
LV Size                7.81 GiB
Current LE             2000
Segments              2
Allocation             inherit
Read ahead sectors    auto
- currently set to    256
Block device          253:1

```

- *Note*: the # of segmnets changed from 1 to 2 : the volume is no longer continuous!

## 15. (25.10.13) System Update

- The update done with *Apper* and *Fedora, RPM Fusion repos* (Fedora 17 x86\_64: "default" + Updates, RPM Fusion for Fedora 17: Free, Free-Updates, Nonfree, Nonfree-Updates)

- 284 rpm's have been updated (276 replaced + 8 new as judged from counting "<" and ">" lines in the `diff` output for the old and new `rpm -qa` listings)

Details in:

`rpm_history/131025.2118.rpm-qa.After_sys_update` (see here)

- ◆ **2924 packages** installed *in total*.

- *Apper run 1*:

- ◆ 283 Upates claimed + 3 additional changes.

On the cleaning-up stage, **an error** occurred on the `os-prober` package with detailed report saying "*Rpmdb changed underneath us*".

I pressed *OK* and (the error seemed not have any effect?) got a new list of 2 updates:

```

akmod-nvidia-304xx-304.88-1.fc17.3.x86_64
sugar-ruler-31-1.fc17

```

of which the second one had only been (automatically) selected.

- *Apper run 2*:

- ◆ Done for the selected `sugar-ruler` package from the run 1.

Result: "*No pachages to update*" with detailed report

"*sugar-ruler\_31-1.fc17 requires sugar >= 0.97.6.*"

*OK* as we have `sugar 0.96.3` (just why the `sugar-ruler` update is present?).

- *Apper run 3*:

- ◆ Done for the `akmod-nvidia-304xx-304.88-1.fc17.3.x86_64` package.

## Tips

### How to set screen resolution

- google: *fedora 17 screen resolution*

- ◆ *How to set screen resolution*

<http://forums.fedoraforum.org/showthread.php?t=280844>

- Our monitor: ACER V233HAOb 1920x1080

- `[fedotov@localhost]~% xrandr`

```
xrandr: Failed to get size of gamma for output default
```

```
Screen 0: minimum 640 x 480, current 1024 x 768, maximum 1024 x 768
default connected 1024x768+0+0 0mm x 0mm
1024x768          61.0*
800x600           61.0
640x480           60.0
```

## How to change GDM -> KDM

- *How to change GDM -> KDM*

[http://fedoraproject.org/wiki/KDE#Graphical\\_interface](http://fedoraproject.org/wiki/KDE#Graphical_interface)

- ◆ To make KDM the default display manager,
  - ◇ use your favourite package management tool (yum, kpackagekit) to install `system-switch-displaymanager-gnome`,
  - ◇ run the `system-switch-displaymanager` command and
    - select KDM

## How to create xorg.conf

- *How to create xorg.conf*

[http://fedoraproject.org/wiki/How\\_to\\_create\\_xorg.conf](http://fedoraproject.org/wiki/How_to_create_xorg.conf)

## A problem: F18 can install bootloader into MBR only

- Fedora 18 installs grub to root partition, not mbr?  
<http://forums.fedoraforum.org/showthread.php?t=288304>
- Bug 872826 - f18 beta tc7 anaconda - no option to install bootloader to a partition  
[https://bugzilla.redhat.com/show\\_bug.cgi?id=872826](https://bugzilla.redhat.com/show_bug.cgi?id=872826)
- Anaconda/NewInstaller  
<https://fedoraproject.org/wiki/Anaconda/NewInstaller>
- A SOLUTION is here (with restoring of Win7 MBR via EasyBCD):
  - ◆ google search: *easybcd fedora 18*
    - ◇ Dual-boot Fedora 18 and Windows 7, with full disk encryption configured on both OSs  
<http://www.linuxbsdos.com/2013/02/23/dual-boot-fedora-18-and-windows-7-on-a-single-hdd->

## Fedora 18 (Spherical Cow) review

- *Fedora 18 (Spherical Cow) review*

<http://www.linuxbsdos.com/2013/02/06/fedora-18-review/>

## How to make Fedora 17 more user-friendly with easyLife

- *How to make Fedora 17 more user-friendly with easyLife*

<http://www.linuxbsdos.com/2012/06/20/how-to-make-fedora-17-more-user-friendly-with-easylife/>

- ◆ can help to install *Nvidia, mplayer, codecs and many more*

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