How do I pick a new Linux laptop system and distro? (Excerpts from EmperorLinux-Lincolns-Logbook)

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May 5, 2004

Portable Linux Enthusiast,

Today's article has relevance to all of us at some time or another. It is the nature of hardware to get old and slow. So, we all find ourselves needing new Linux laptop about every 3 years.

Lincoln's new Linux Laptop:

As the founder and president of a Linux laptop company, I get quite a few questions about which machine I use, and which Linux distro I use. While those are interesting questions with easy answers which we'll get to, I also field the age old question of "How can I take my data with me?" from our returning customers (as we've been at this Linux on laptops thing for 5 years now, we have many customers coming back after a 3-4 year run on one of our systems, and it's time to upgrade). So, I'm going to roll all these questions into one essay and answer: "How do I pick a new Linux laptop system and distro, and then move my data, and my work flow to it?"

I took delivery of an <u>EmperorLinux</u> Toucan T21 in January of 2001, and used it approximately 12-16 hours a day for over three years. The Toucan T21 (named "tori") ran Red Hat 7.3, with all the same modifications to the kernel (the empkernel), and the config files that our customers enjoy. Recently, tori started making not-happy-disk noises, and the LCD back-light was flickering.

So, on March 19th, 2004 I selected a nice new Toucan T41 [1] with Fedora from our assembly line, and christened her "sophie". This will detail what I got hardware wise, and then all the extra tweaks I've made to sophie over the past few days to get her totally up to speed. I've had to get my data over, configure printing, and get user-space applications configured.

It is interesting to look at how far Linux laptops have come in the past three years. By getting sophie, I've upgraded my CPU from a P-III 850 with 256MB cache to a Pentium M 1700 with 1MB cache, my disk from 32GB at 4200rpm to 60GB at 7200rpm, and ram from 384MB to 1GB. From a connectivity standpoint, I've jumped my ethernet from 10/100 to Gigabit, and my WiFi from a PCMCIA 'b' card to internal 802.11a/b/g Atheros (the best Linux WiFi card around), and now I can start playing with internal BlueTooth. Not all things change though. The T41, like the T21 still has a 1400x1050 LCD panel, and at 14 inches, it is still the smallest screen to be significantly over 1024x768.

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[1] See `http://www.EmperorLinux.com/toucan.php` for details about the latest incarnation of the Toucan.

Data Transfer:

First, we have to get all the data copied over from tori to sophie. (tori had a daily rsync to our QuadXeon server, but I'm going to go the direct route here, since tori hasn't failed me yet.)

(Shameless plug: Yes, I really just pulled a Toucan T41 off our Fedora production line, and this is all I had to do—no config, no kernel, no effort!)

```
for i in durey elf emperor; do
        useradd $i;
        passwd $i;
done
```

We can be on tori, and push to sophie:

```
tori # rsync -e ssh -av /home/durey durey at sophie:/home/
```

or we can be on sophie and pull from tori:

```
sophie # rsync -e ssh -av emperor at tori:/home/emperor /home/
```

Of course there are a few more files I need:

```
rsync -e ssh -av /usr/local/bin/* root at sophie:/usr/local/bin/
rsync -e ssh -av /root root at sophie:/
```

Media: Xmms and Xine:

As most of you know, most Linux distributions no longer ship xmms with support for playing mp3s. This is due to the Fraunhofer licensing fees for mp3 decoding. However, as an individual, you can easily add mp3 playback capability to Fedora with these RPMs:

```
wget
http://www.xmms.org/files/1.2.x/rpm/fc1/xmms-1.2.10-1.i386.rpm
http://www.xmms.org/files/1.2.x/rpm/fc1/xmms-alsa-1.2.10-1.i386.rpm
http://www.xmms.org/files/1.2.x/rpm/fc1/xmms-vorbis-1.2.10-1.i386.rpm
http://www.xmms.org/files/1.2.x/rpm/fc1/xmms-gl-1.2.10-1.i386.rpm
```

Then, just `rpm -Uvh xmms*.rpm` them onto your system.

Watching DVD movies on ones laptop is very nice if you travel, have no home DVD player, or just want to show your friends how cool Linux is. Xine has long been my favorite Linux DVD player, but xine in legendary for being a difficult build from source. Enter APT. Debian's apt has been ported to Fedora, and it makes finding and installing new stuff a breeze. Get apt from fedora.us, and install it:

```
http://ftp.freshrpms.net/pub/freshrpms/fedora/linux/1/apt/
    apt-0.5.15cnc3-0.1.fr.i386.rpm
http://ftp.freshrpms.net/pub/freshrpms/fedora/linux/1/apt/
```

```
    apt-devel-0.5.15cnc3-0.1.fr.i386.rpm
```

```
rpm -Uvh apt-0.5.15cnc3-0.1.fr.i386.rpm
apt-devel-0.5.15cnc3-0.1.fr.i386.rpm
```

To get a local listing of all the Fedora apt packages you can choose from, run:

```
apt-get update
```

And then, to search that data for the Xine player:

```
apt-cache search xine dvd
        libdvdcss - A portable abstraction library for DVD decryption.
        libdvdcss-devel - Development files from the libdvdcss DVD decryption library.
        xine - A free multimedia player.
        xine-lib - Core library for the xine video player
        xine-lib-devel - Development files for the xine library
```

and then to install xine, and all of its dependencies, and all of the decryption plugins you'll need for your usual encrypted DVDs like the Matrix.

```
apt-get install xine
```

Galeon, Printing, AA Fonts:

I really liked the Galeon web browser on my rh7.3 system, and was rather dismayed at the lack of Galeon in Fedora. They have replaced Galeon with the much less functional "Epiphany", which doesn't have near the flexibility of Galeon, especially with respect to tabs (and saving tabbed sessions). Thankfully, fedora.us has a wonderful trove of packages for Fedora, and there you can find Galeon for Fedora:

```
http://download.fedora.us/fedora/fedora/1/i386/RPMS.testing/
    galeon-1.3.11-0.fdr.3.a.fixed.1.i386.rpm
```

Here at <u>EmperorLinux</u>, we use an in-house system to generate automated e-mails for quotes, order confirmations, and shipping notices. The web form that does this spits out the mailto protocol (RFC 2368), which as far as I know, only Evolution can handle properly, so we need to send "mailto" URLs to evolution: This setting stored in GConf, in `/desktop/gnome/url-handlers/mailto`, and if there is no handler set, then the key will not exist, so:

```
gconftool-2 --type=string --set
/desktop/gnome/url-handlers/mailto/command 'evolution %s'
gconftool-2 --type=bool --set /desktop/gnome/url-handlers/mailto/enabled true
```

We have quite a few printers here, from a high-speed Optra for printing the manuals, to a dot matrix for shipping labels. Of course everything is done in latex and output as postscript files. We also have several different ways our printers are connected, so we can really give the Linux printing

subsystem a workout. The chart below summarizes how I've configured CUPS on my new Toucan T41 Linux laptop to talk to a local (parallel-port connected) Laser Jet 2100, a remote dot matrix, and several postscript printers. On RH7.3 I had used `printtool` for this, and in Fedora, `printtool` is still there, and is the same as printconf-gui. printconf-tui is also available. cupsconfig will give you a different interface to the same printer configuration data. All cupsconfig does is run point a web-browser at `http://localhost:631/`

```
Printer            Queue Type        Details            Driver  Notes
---------------    ----- ----        -------            ------  -----
HP Laser Jet 2100  lp    local       /dev/lp0           pxlmono was ljet4
Epson              dots  unix LPD    raw3 at 192.168.1.25  epson   360x180
Lexmark E312       lex   unix LPD    raw1 at 192.168.1.25  postscript
Lexmark Optra      optra JetDirect   192.168.1.6:9100   postscript
```

You may find this handy for printing to remote Unix LPD hosts:

```
mkdir -m 1777 /var/spool/cups/tmp
```

```
apt-cache search gnome-terminal
```

```
GNOME control center -> "File Types and Programs" -> Documents/Published
    Materials ->
```

Call me old-fashioned, but I really do not like anti-aliased fonts in most applications. Don't get me wrong, I have *always* used anti-aliasing in the gv Postscript viewer, but to have all my terminals and web-browsers be AA is a pain. It is harder to type while reading AA fonts, and you can not get as much information on the page clearly. You can turn off AA fonts in gnome on a per-process basis by simply setting the environment variable `GDK_USE_XFT=0`, i.e., run `export GDK_USE_XFT=0;` `galeon`, and you'll have nice sharp fixed fonts.

Conclusion:

My Toucan T41 Linux laptop has now been serving me well for the past month, and it is doing everything I need. I hack, and it compiles kernels very quickly (ccache). I've been using 2.6 on it, but that is another story. It plays mp3's, oggs, and DVDs. I can access all our intranet services via ssh encrypted tunnels, and everything else the president of a Linux laptop company needs to do to run the show. Yay!