# PCLinuxOS Magazine

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PCLinuxOS Magazine

## From the Desk of the Chief Editor

Welcome to PCLinuxOS magazine. We've included plenty of good stuff for you to enjoy. You've probably all met RaveDave on the main forum; he was a Linuxer before there was Linux. There's a bit of wry humor from Britbrian, and a how-to on setting up Lords of Destruction to run under Wine. For those worried that the current 0.92 and 0.93 repositories may "go away" after 0.94 is released, there is a great tutorial on creating your own local copy of the repositories. There is lots more.

Now for some news. Next month, we will have a treasure hunt for our readers. The prize will be announced in next month's issue in my editorial. This month, though, I thought we'd give you a preview. As you read the articles, notice that some graphics have a small yellow dot on them, with a red letter, number or punctuation mark inside the dot. These characters make up a "key" to unlock the treasure chest. Write them down and then organize them to make a word, words or phrase. Pay attention to capitalization; it's important. When next month's issue "hits the street" you'll need to be the very first one to correctly assemble the key and visit a special link I will publish in my editorial. If you are first, you win... well, I'll tell you what you win next month.

Why are we doing this? We're hoping while you are there entering your guess at the treasure key that you'll take the time to fill out our demographics survey. No personal information is collected there (except for the winner, who must provide us a contact email address). The data collected will help us here at PCLinuxOS Magazine do a better job providing you with what you want.

So check out this month's graphics and see if you can guess the preview key. I'll announce what it was on the main forum in the Magazine's section.

**Tim Robinson**

# Announcement: PCLinuxOS 0.93a Released

Texstar announced on August 21, 2006 the availability for download or online ordering of **PCLinuxOS 0.93a Full Edition** aka **Big Daddy**.

The full edition comes with Kernel 2.6.16.27, KDE 3.5.3, Open Office, Firefox, Thunderbird and Nvu. Digikam, Gimp and Gqview for your digital photo needs. Amarok, Audacity and Audio Creator for your digital music needs. Frostwire, bittorrent and gftp for file transfers and p2p file sharing. Mplayer and Kaffeine for video viewing. (libdvdcss2 required for dvd encrypted playback). Kopete and Xchat for online chatting. Blogging and podcast software also included. PCLinuxOS Big Daddy is the full monty!

## PCLinuxOS 0.93a Big Daddy

PCLinuxOS 0.93a - Full Edition aka Big Daddy is now available. This is our full version of the PCLinuxOS Distribution.

### Internet Suite
Internet, Email, instant messaging, and more! PCLinuxOS includes The Mozilla Firefox Web Browser and Thunderbird Email Client. Kopete Instant Messenger allows your to chat with friends on Yahoo, MSN and AIM.

### Complete Open Office Suite
PCLinuxOS comes with a complete Open Office suite for word processing, spreadsheets, drawings and slide presentations.

### Digital Photos
Digikam is a pre-installed photo managment program that allows you to download, organize, edit, and share your entire photo collection. Easily connect your digital camera to your computer and import all of your pictures with a few mouse-clicks. In addition to Digikam, PCLinuxOS also includes the powerful GIMP image editor.

### Digital Music
Manage your favorite tunes with Amarok, an all-in-one music player built into PCLinuxOS. Burn and rip your favorite music with Audio Creator. Fileshare through Frostwire.

### Web Publishing Tools
PCLinuxOS includes Nvu, a powerful, easy-to-use web design program that is open-source. Anyone can create web pages now, even those with no technical expertise or knowledge of HTML.

PCLinuxOS allows you to try it in Live mode without touching your current system. If you like PCLinuxOS you can easily install it to your computer using the easy to use Installation program. After installing PCLinuxOS to your computer, you can access an additional 5000 programs and libraries from our free software repository.

If you are tired of Windows constantly crashing all the time, the blue screens of death, the nasty viruses/trojans, constant pop-ups, and sluggish performance then PCLinuxOS is for you.

## Switch to PCLinuxOS today!!!

The current list of programs on the Full Edition of PCLinuxOS 0.93a can be found at http://www.pclinuxos.com//page.php?13l.

# Packet Writing in PCLinuxOS

by Clareoldie

*p*acket writing has been available in Windows operating systems for a long time through the use of third party software. My experience with this was problematic, as over the years the formats changed a little and there was no backward compatibility. I guess that is what happens with proprietary formats.

Packet writing can be implemented in PCLinuxOS and is not at all difficult to achieve. There is as yet no 'overall' application which would hide the workings from a user. Maybe soon that will change. Meanwhile the same result can easily be achieved by doing the steps separately yourself. This document will help you do this. The procedure is laid out in three main categories:

**A. Operating System setup**
**B. Hardware setup**
**C. Media setup**

## Operating System

To begin, you must install **udftools** from the repository. Next you need to make sure that the required modules are loaded at startup. These are not yet built into the kernel, so the file **/etc/modprobe.preload** needs to be edited. Go to **Kmenu->Applications->FileTools->FileManager Super User Mode** and launch it. Navigate to the **/etc** directory and, using right click with the mouse, select to open the file **modprobe.preload** with an editor like Kwrite. Add **udf** and **pktcdvd**, each on its own separate line, to the file, and ensure there is an empty

line at the end of the file (the order is not important). Don't change anything else in the file while you are editing it. Your file might look something like this:



**Save** the file to ensure the changes you have made are permanent. Reboot the computer to ensure the modules are loaded. PCLinux Operating System is now set up to use Packet Writing.

The next stage is to set up the hardware.

## Hardware Setup

You will need a DVD drive capable of burning RW media. My burner, a Pioneer 107D, uses +RW media, so I have not checked this out on -RW media. You will also need a DVD RW media of 4.7 GB capacity.

First, the optical drive needs to be set up for packet writing so the **fstab** file needs to be edited. As

previously described, using **File Manager Super User Mode**, navigate to the **/etc** directory and open fstab for editing with Kwrite. Add this line to the **fstab** file:

```
/dev/pktcdvd/0  /media/packetcd0 udf
noauto,noatime,rw,users 0 0
```

(If you are viewing the online version of the PCLinuxOS Magazine, you can copy and paste the above into the file to prevent typing errors.)

**Save** the **fstab** file. It might then look something like this (see line 12):
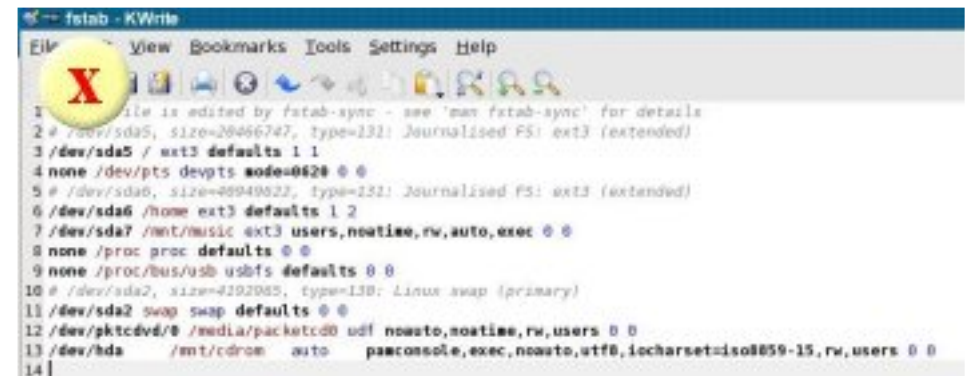


Note: Your **/mnt/cdrom** line should be something like line 13. If you have problems with **fstab** entries help is available on the forum. Here is another example of an entry for an optical drive:

```
/dev/hdd /mnt/cdrom auto
pamconsole,exec,noauto,utf8,codepage=8
50,iocharset=iso8859-1 0 0
```

## Warning

It is vital that you select the correct optical drive for burning and take note of its details, e.g., **/dev/hda /mnt/cdrom** above (line 13). If you have more than one optical device make sure you select the correct one. You will need to know the location of your device for later.

Next you need to use a terminal, so open it and get root permissions by typing **su** <enter> and then type in the root password. The password will not appear on the screen for security reasons so just press <enter> after you have typed it in. You should now have something similar to this in the terminal:

```
[myname@Pentium ~]$ su
Password:
[root@Pentium myname]#
```

The '#' sign indicates that you have root permissions. Next type in (or copy and paste):

**pktsetup 0 /dev/hd?** <enter> Please make sure that you change the **hd?** to the correct location for your

burner which you took note of earlier. Your hardware should now be set up for Packet Writing. That brings us to the third stage of the process.

## Media Setup

Place a DVD+RW 4.7GB media in the burner and format it using K3b or whatever burner you normally use. Leave the media in the drive. Open a terminal and get root permissions as above, or use the existing terminal if you haven't closed it. Type or copy & paste the following line into the terminal and press enter:

```
mkudffs /dev/hd?
```

Again, change the entry to suit the location of your burner (hda, hdb, hdc, etc.). This makes the media capable of packet writing. You can expect to see an output something like this:

```
[root@localhost ~]# mkudffs /dev/hda
start=0, blocks=16, type=RESERVED
start=16, blocks=3, type=VRS
start=19, blocks=237, type=USPACE
start=256, blocks=1, type=ANCHOR
start=257, blocks=16, type=PVDS
start=273, blocks=1, type=LVID
start=274, blocks=2294573, type=PSPACE
start=2294847, blocks=1, type=ANCHOR
```

```
start=2294848, blocks=239, type=USPACE
start=2295087, blocks=16, type=RVDS
start=2295103, blocks=1, type=ANCHOR
<pause>
[root@localhost ~]#
```

Note: There can be a quite delay at the <pause> above. Give it time to finish.

Eject the media and re-insert it again. If you have your desktop set to display icons then an icon should appear with a name like **LinuxUDF**. At this point the only thing on the disk will be the directory **Lost and Found.**

One thing remains to be done. As the media was formatted by root it has permissions which only allow root to write to it. You must now change this. This is a one time operation as the permissions are written to the disk. There are many ways of changing permissions on the media. (If you are comfortable with the command line then it can be done there using the **chown** command.) For a new user it is probably easier to **briefly** log in as root user and right click on the icon, go to properties, and select the permissions tab. You will be presented with a screen like this:

Change the permissions to allow **Group** and **Others**
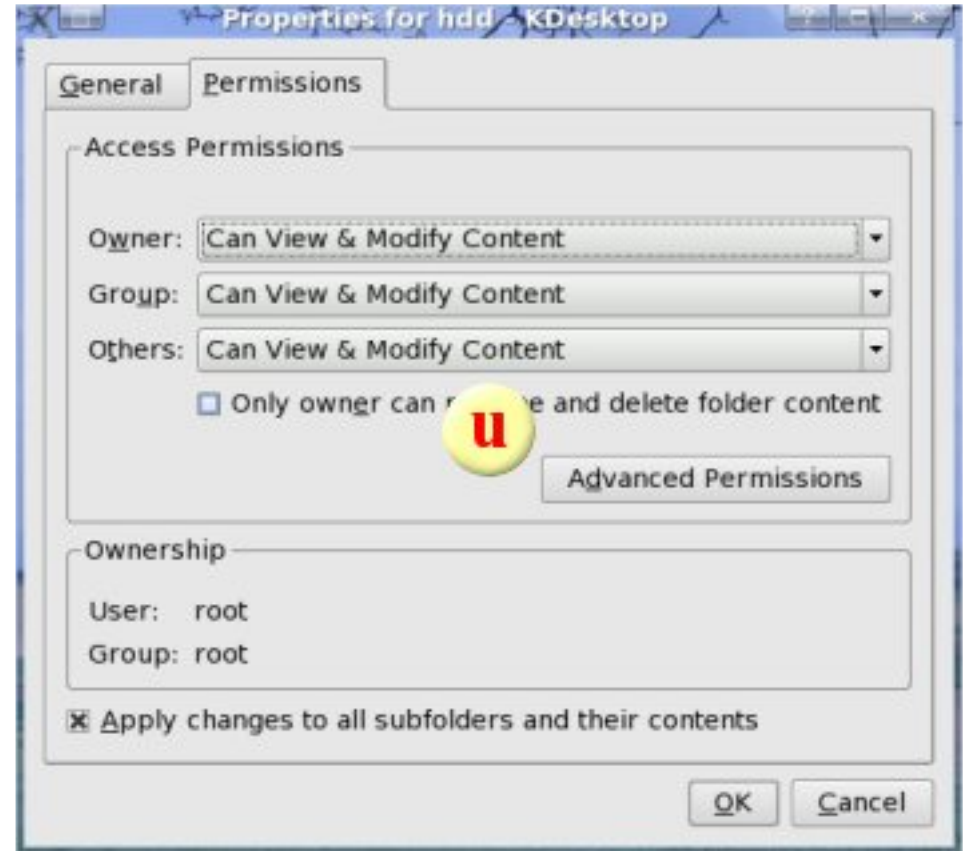


to read and write to the media. Also tick the box to 'Apply changes to all subfolders and their contents.' Click 'OK' to save the changes. Log out of root **immediately** and go back to your user account.

That is it. You now have a DVD that you can treat like a floppy except much larger and faster. If, when deleting files from the disk, you send them to the Waste Bin then it may be necessary to empty the Waste Bin before you can eject the disk. As with all

removable media it is good practise to 'unmount' and 'eject' the media by right clicking on the desktop icon and selecting the preferred option. This ensures that all write actions have been finalised before the media is ejected. To do otherwise could result in corrupted/incomplete data on the media.

Please note that I found a size limitation of 1GB for any file. I could easily copy large ISO files to the disk but when I tried an ISO greater than 1GB (1.2GB) it only wrote the first 1GB and then popped up an error.

Happy saving!

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## Night Before Christmas

'Twas the night before Christmas and Santa's a wreck...
How to live in a world that's politically correct?
His workers no longer would answer to "Elves",
"Vertically Challenged" they were calling themselves.

And labor conditions at the North Pole
Were alleged by the union to stifle the soul,
Four reindeer had vanished, without much propriety,
Released to the wilds by the Humane Society.

And equal employment had made it quite clear
That Santa had better not use just reindeer.
So Dancer and Donner, Comet and Cupid,
Were replaced with 4 pigs, and you know that looked stupid!

The runners had been removed from his sleigh;
The ruts were termed dangerous by the EPA

And people had started to call for the cops
When they heard sled noises on their roof tops.

Second-hand smoke from his pipe had his workers quite frightened.
His fur trimmed red suit was called for the tooth.
Nothing that seemed to embellish a truth.

And fairy tales, while not yet forbidden,
Were like Ken and Barbie, better off hidden.
For they raised the hackles of those psychological
Who claimed the only good gift was one ecological.

No baseball, no football....someone could get hurt;
Besides, playing sports exposed kids to dirt.
Dolls were said to be sexist, and should be passe;
And Nintendo would rot your entire brains away.

So Santa just stood there, disheveled, perplexed;
He could not figure out what to do next.
He tried to be merry, tried to be gay,
But you've got to be careful with that word today.

His sack was quite empty, limp to the ground;
Nothing fully acceptable was to be found.
Something special was needed, a gift that he might
Give to all without angering the left or the right.

A gift that would satisfy, with no indecision,
Each group of people, every religion;
Every ethnicity, every hue,
Everyone, everywhere...even you.

So here is that gift, it's price beyond worth ...
"May you and your loved ones enjoy Peace on Earth."

(c) Harvey Ehrlich, 1992.
NOTICE: This poem is copyright 1992 by Harvey Ehrlich. It is free to distribute, without changes, as long as this notice remains intact. All follow-ups, requests, comments, questions, distribution rights, etc. should be made to mduhan@husc.harvard.edu. Happy Holidays!!

# How To Create An Update CD or DVD

by cogDis

The purpose of this document is to demonstrate the steps involved in creating a custom built CD that contains the necessary packages to perform a system wide update of a .92 or .93 PCLOS installation. The main intent is to provide those users who have limited or no Internet connectivity, a means to keep their systems up to date.

## Requirements:

1. A listing of the installed packages from the computer to be upgraded. This is a text file that we will create in step one, copied to a floppy, CDROM, or other removable device, that can be transported to the host machine used to create the Update CD.

2. A host computer with an Internet connection (the

faster, the better) capable of booting and running a PCLOS .92, or .93 Live CD.

3. The computer used to create the Update CD must have some type of writable storage, of sufficient size, to temporarily store the downloaded package updates. Currently, this is approximately 560MB for a complete update of a basic .92 install or 600MB for a standard .93 install. Your mileage may vary, dependent upon the requirements of the system you intend to update. This storage can be a writable partition on the host computer, or some type of external storage device, such as a USB hard drive, or flash drive.

4. If the host computer has a spare CDRW drive that isn't being occupied by the Live CD, the entire operation, including the burning of the actual Update

CD, can be done from within the Live CD session. However, as the Live CD cannot be removed during the session, the lack of a spare burner will require that the created archive be moved to another PC for burning, or moved to a partition on the host computer that is accessible by another OS capable of burning the desired disc.

## The steps:

I'll describe the steps involved, in order, with the commands used, supplemented with actual examples from my own system, where possible.

1. Create the package listing on the computer being updated. The first step is to create a list of packages present on the system you wish to update. This package list will be taken to the host computer, where it will be loaded into Synaptic. In a terminal, execute the following command:

```
rpm -qa ?qf '%{NAME}\n'|sed -e
/kernel*/d -e /gpg*/d -e 's/$/
install/'| sort >installed.txt
```

This will create a file in your home folder called installed.txt. If you need to perform these next steps on another computer, you will need to copy this file to some type of removable media, and take it with you to

step 2.

2. Boot the host system with the PCLOS .92, or.93 Live CD.

3. Mount the writable storage device that will be used to temporarily store the downloaded packages. This can be done with Konqueror by selecting Go > Storage Media, and selecting the partition or device, or with the mount command. In my case, I have a spare partition, /dev/sda5, that I will mount manually. In a root terminal execute:

```
mount /dev/sda5 /mnt/sda5
```

This mounts the partition into the filesystem in the location /mnt/sda5, and makes it available for use. If you use the Konqueror method, pay attention to the location the device gets mounted, as you will need to refer to it later.

4. Next, we need to remove the default location that Synaptic uses to cache downloaded packages. We cannot use this location in the Live CD environment due to the large number of packages that must be downloaded. To do this, execute in a root terminal the command:

```
rm -rf /var/cache/apt/archives
```

5. Now create the storage folders on the storage device for Synaptic to use. For this, use the command:

```
mkdir -p /path-to your storage device
/archives/partial
```

In this example, in a root terminal execute:

```
mkdir -p /mnt/sda5/archives/partial
```

6. Now create a link to the storage folders, in the place that Synaptic expects to find it. For this use the command:

```
ln -s
/path_to_your_storage_device/archives
 /var/cache/apt/archives
```

The example looks like this: As root:

```
ln -s /mnt/sda5/archives
  /var/cache/apt/archives
```

7. Next, mount the media that contains your "installed.txt" file. Then start Synaptic, and if prompted to update your repositories, select cancel. From Synaptic's settings menu, select repositories. Make sure that ibiblio, or one of its mirrors is selected (only one), and that the sections box reads "os texstar updates (for .92) or "os texstar updates 93" (for any .93 version.) **Note:** If the system you wish to update has had any packages installed from the unstable section, you should add it after "os texstar updates" or "os texstar updates 93" in the sections box, so those packages will be updated also.

Click "okay" to leave the dialog. From the Settings menu, select Preferences, then on the Temporary Files Tab, check the box that corresponds to "leave all downloads in cache." Click "okay" to exit the dialog.

Click the Reload button to update the package listings. Select "Read Markings" from the File menu, and point the dialog to the installed.txt file you brought with you. This will load the package list. Click Apply. In the summary dialog, check the box that says "download files only." Click Apply (in the dialog), and the downloading of package files will commence. Dependent upon connection speed, this could take some time to complete. Once completed, any additional packages that you would like to be included in the Update CD can be marked and downloaded as well. Just pay attention to the capacity of your media.

8. Once the downloads have completed, create the directory structure of the update CD. Use the command:

```
mkdir -p
/path_to_your_storage_device/pclinuxos
/2006/RPMS.uucd
```

Example, as root:

```
mkdir -p
/mnt/sda5/pclinuxos/2006/RPMS.uucd
```

**BIG NOTE:** The RPMS folder name must be in uppercase, and have an extension. Any extension will do, but without it, the genbasedir command you will run in step 9 will fail.

9. Next, copy the downloaded files from Synaptic's cache, to the newly created directory structure. Use this command:

```
cp -v
/path_to_your_storage_device/archives/
*.rpm /path_to_your_storage_device
/pclinuxos /2006 /RPMS.uucd
```

In the example, as root:

```
cp -v /mnt/sda5/archives/*.rpm
/mnt/sda5/pclinuxos/2006/RPMS.uucd
```

10. Navigate to the RPMS.uucd folder, using the command:

```
cd
/path_to_your_storage_device/pclinuxos
/2006/RPMS.uucd
```

In the example, as root:

```
cd /mnt/sda5/pclinuxos/2006/RPMS.uucd
```

Once there, build the package lists for Synaptic to use. As root, from within the RPMS folder, we enter the following command:

```
genbasedir --flat --bz2only --
progress /mnt/sda5/pclinuxos/2006
```

11. That is it. If you have a spare burner that is not being used by the Live CD, you can fire-up K3B and burn the /pclinuxos folder and all it contains to disc. If not, you will need to reboot the machine with another installed OS that has access to the storage partition, and burn it there, or migrate the folder to another machine that has this capability. If you used a removable storage device, then you can unplug it and take it with you.

Once the Update CD has been created, you can use Synaptic to install its contents. Start Synaptic on the machine you wish to upgrade, and disable the on-line repositories. From the Edit Menu, select "Add CD-

ROM." When prompted, insert the Update CD in the drive and click okay. A dialog will appear asking you to give the disc a name. Call it anything you want. Once it is loaded, click Mark all Upgrades and apply, and within a matter of minutes your machine will be fully updated. It is advised that you reboot after updating, as many critical system packages will be installed in this process, and they need the chance to be reloaded. If you wish to have the entire repository on hand, we can burn a "snapshot" to either a dual layer, or 2 single layer DVDs. We'll cover that next.

## How To Create An PCLOS DVD Synaptic Repository (snapshot)

### Purpose:

The purpose of this document is to describe the steps necessary to create a complete PCLOS Repository on DVD, for the purposes of upgrading and/or installing additional software on PCLOS users' machines that have limited, or no Internet connectivity.

### Requirements:

1. A Linux machine with a fast Internet connection and the ability to download and store upwards of 5GB of data.

2. The ability to burn either a Dual layer (preferred), or Single Layer DVD.

### The Steps:

1. Create a working directory. You will need to create a folder to store the downloaded files, in a place that you have write access to. For example purposes, we will assume that your username is billybob, and you want to create a folder called pclosmirror in your home directory. In a terminal, execute the following command:

```
mkdir /home/billybob/pclosmirror
```

2. Copy the apt repository from **ibiblio** to your working directory. For this we will use rsync. Rsync will create an exact mirror of the PCLOS apt repository. The first time you run the command, it will download approximately 5GB of data! Depending upon the speed of your Internet connection, this can take quite some time. I generally let it run overnight. The server load should be less at this time. Once you have run this command the first time, on subsequent attempts, it will only download those files that have

changed since the last time it was run. This makes maintaining a current repository fairly quick, and reduces bandwidth usage. The following code excludes the experimental (exp) section as well as the sources, from transfer. If you wish to include those, remove the --exclude options from the command string. Be aware of the effect that adding these sections will have on your repository size! Execute the following command in a terminal:

```
rsync -av --progress --delete  --
exclude=RPMS.exp/  --exclude=SRPM*/
distro.ibiblio.org::texstar/pclinuxos/
apt/ /home/billybob/pclosmirror
```

3. **Burning a Dual Layer DVD:** If you have the capability of burning a Dual Layer DVD (DL), then fire up K3B and start a new DATA DVD session. Right click at the bottom of the K3B window and select 8.0 GB from the Media type menu. Then, simply drag the /pclinuxos folder and all of its contents to the creation window. This folder will be in the root of the working directory you created in step 1. Burn at a moderate speed (4-6x), and select "verify written data." When finished, you will have a complete PCLOS repository mirror, on disc, that can be used with Synaptic.

Simply start Synaptic, disable your on-line

repositories from the Settings menu, then select "Add CD-ROM" from the Edit menu. Put your disc in the drive, click Okay, and give the disc a name when prompted. It can be any name you wish. The disc will load, and you will be able to upgrade, or install new packages with no Internet  connectivity required. **Big Note:** This disc will include the .92 or .93 repositories, and the unstable sections, unless they were explicitly excluded with the rsync command string. If you do not wish to use packages from these two sections, then you MUST remove the listings in Synaptic. To do this, select repositories from the settings menu, highlight the line pertaining to your DVD repository, and remove 93 and unstable from the sections box.

4. **If you cannot burn a DL Disc:** You will need to use two single layer discs and split up the repository files, as they are too big to fit on one SL Disc. I find this easiest to do from within K3B itself. To create the first disc, as in step 3 above, start a new DATA DVD Project with K3B. Drag and drop the /pclinuxos folder from your working directory into the creation window. You will notice the indicator bar turning red, indicating the data you have selected is too large to fit on the single sided media. That is okay, as we are going to remove some things. In the left hand pane of the creation window, drill down in the directory tree until the contents of the 2004 folder are visible. Remove all of the /RPMS folders EXCEPT /RPMS.os.

Then, open the /base folder, and remove all files EXCEPT those pertaining to the os section. You will want to keep the following files only: release, release.os, pkglist.os.bz2, and srclist.os.bz2. Then, burn the project and label the disc DVD1 for future reference.

To create Disc 2, we repeat the previous process of dragging the /pclinuxos folder to the DVD creation window. Then remove the /RPMS.os folder from /2004 and the files: release.os, pkglist.os.bz2, and srclist.os.bz2 from the /base folder. Burn the disc and label it DVD2.

Start Synaptic, disable your on-line repositories and select "Add CD-ROM" from the edit menu. Insert DVD1 and name it DVD1 when prompted. Synaptic will ask if you wish to add another Disc. Select yes, then insert DVD2. Name it DVD2 when prompted. You are now ready to update or install new packages. Synaptic will copy your selected packages from disc, and prompt you when it needs files from the disc that is not in the drive. Again see the previous **Big Note**. The .93 and unstable sections will be on DVD2 in this case.

That is all there is to do. Whether you only want to keep your system updated, or have the complete PCLOS repository on hand, you now have everything you need. What a nice way to bring in the new year!

## The Bleeding Obvious
*Believed to be in the public domain*

**Customer:** "I received the software update you sent, but I am still getting the same error message."
**Tech Support:** "Did you install the update?"
**Customer:** "No. Oh, am I supposed to install it to get it to work?"

**Customer:** "I'm having trouble installing Microsoft Word."
**Tech Support:** "Tell me what you've done."
**Customer:** "I typed 'A:SETUP'."
**Tech Support:** "Ma'am, remove the disk and tell me what it says."
**Customer:** "It says '[PC manufacturer] Restore and Recovery disk'."
**Tech Support:** "Insert the MS Word setup disk."
**Customer:** "What?"
**Tech Support:** "Did you buy MS word?"
**Customer:** "No..."

**Customer:** "I'm thinking about writing a book on the problems I'm having with S3 Video cards and Warp and..." (blah, blah, blah, etc.)
**Tech Support:** "What exactly is your problem?"
**Customer:** "I've downloaded the video drivers for the PS/VP's with the S3 chipset, and they won't work on my machine."
**Tech Support:** "Have you got a PS/VP sir?"
**Customer:** "Well...no."

# I Was A Linux-er Before Linux Existed

by David (aka RaveDave)

Travel agents are indeed helpful people, they can sell you a ticket for a trip to almost anywhere, but they can't sell you one for your journey into Linux.

That is a ticket which can only be self-issued. As with any journey, you need a reason to make it, somewhere to travel from, and a destination at which to arrive. Some people like things quite well enough where they are, and see no reason to move on. Others are the more restless types, bored by limited sameness, frustrated by restrictions, so that they are drawn to seek wider experiences, more challenges, more choices, more everything, even before they know that there is really a **more**, at all. I was a Linux-er before Linux existed.

At least I was in the Era of Windows-2.0, 1987, which promised so much, and yet did so very little. Somehow I knew that I wanted more - more functions, more choices, more everything. I was like poor Oliver Twist, "Please, sir, may I have some more...?" But I received the same answer as Oliver. In 1987, Linus Torvalds had not yet made his own "little program" to use at home, because he could not afford to buy a copy of Minix. But my journey began there, out of DOS, into Windows, and what I wanted, the **More Everything**, whether it then existed or not, was a user-usable, PC-friendly, Linux.

Some journeys go neither as planned, nor even as wished for. Oh, there were interesting, even promising, way points: Windows 3.0, released too early - and where have you heard that before? Its successor, Windows 3.1, was sort-of, nearly-almost, what Bill

Gates had promised in the late 1980s: "A new Windows, with pretty pictures, moving pictures, a new user experience, as good as a Mac - but under half the price!" That, after the hiccup of Windows 3.0, and the hurried release of 3.1, might have amused the Mac fans, but it wasn't actually "As good as a Mac."

Windows was very far from that, and it still is. Windows 95, with its Windows 98 and 98SE upgrades, didn't do it, either. But I kept on with Windows, eagerly awaiting every **fanfared new innovation**, to see if that would at last have the **More Everything**. Along the journey, due to a shoulder injury that meant I could no longer do heavy lifting, and so could not continue as a semi-trailer operator, I needed a change of career. I had no business or trades skills, so, what to do next? To turn a hobby into a job seemed to be a possibility, so I retrained as, at first, a Computer Assembler, then as a Tech Assistant.

Next, I worked in an assembly shop, then as a workshop and front-counter assistant in suburban PC dealerships. There I was introduced to the idea that PC Owners are the **Sheep**. What happens to Sheep, needs no reminder. After quite some time, I was able to obtain "proper" Technician Certification, CompTIA's A+, only to have employers state, when I displayed it, "Oh, that's American, it doesn't apply here!" when I thought it would get me a little more pay. Actually, it

is recognised in the Australian IT Industry - just that it **selectively** is not, by suburban dealership owners who don't want to pay **Trade**s level wages.

But it was, at least, an "Oh, you've done that one, have you?" help in getting work. So I did get quite an interesting insight into the PC side of the Industry, and into the industry's all-too-common treatment of the users, bringing their ailing Windows PCs in for troubleshooting and repairs. Or the attitudes taken with those wanting a PC built, to a price, or for a purpose, or even, the "Latest and Best of Everything, mate!" from the ones with deeper wallets. Sadly, and often, we were not entirely truthful with **best**, or even "Fully adequate for your needs, Ms/Sir." Because those PCs, whatever the prices, were never the "best of everything".  They were Windows PCs, 95s, 98s, 98SEs, even the **interim** ME-gap-fillers.

Then, of course, came our Bill's **one-platform** dream, as 9x finished, and NT escaped the confines of the commercial networks, and onto the XP-PCs of an unsuspecting world. More? Of everything? Not even halfway-nearly. Change the desktop graphics, enlarge the file sizes that are manageable, give it a lot more processor and RAM, and an XP-PC is Win98SE on steroids.  Not very good steroids at that, from the user side, at least. For me, **Windows** began in the 1980s, and ended in March, 2000, with Windows 98SE2, the last of **real 9x**. The last

PC-designed O/S from Microsoft.

NT was never Windows to me, and until the advertising for the newly innovated NT-4, it wasn't to Microsoft either. In fact, the Microsoft Press Tech Manuals (plural for years), insisted that NT wasn't to be deployed into the domestic environment. Oh, they did the best they could, with what they had, sort of. And long ago, Bill's promise did indeed put Windows-3.x PCs into millions of homes. That established the user-base of what is now well over 90% of the Western World's PCs. A remarkable achievement, to have over half a billion users quite convinced that their PC has the "Everything," and does "Everything," that a Home Computer could possibly do. When it does not, that is.

So over half-a-billion users can be wrong, without of course, almost all having the first clue that they just might be. Many are as yet unaware that my wild-mad-dream of the 1980s has finally come true. "More Functions - More Choices - More Everything," has really arrived. Ushered in by an elegantly tuxed penguin, even the "more-choices", has "more choices." There is certainly no shortage of Linux distros that can be run on a home computer. The user dilemma now, is which "More Functions," and which "More Everything," do they want with their "More Choices," of distros.

# PCLinuxOS 0.93a Junior

Texstar announced the release of PCLinuxOS 0.93a Junior on August 9, 2006

PCLinuxOS 0.93a Junior was the next step up from MiniMe. Junioir comes with just the basic desktop allowing full user customization.

PCLinuxOS 0.93a Junior is a self booting Live CD with advanced hardware detection. In addition to running Junior in Live CD mode, you can also install it to your computer. Easy to follow instructions are included on the Live CD as well as a chat channel for instant help.

Junior comes with a set of pre-selected programs for Web Browsing, Email, Instant Messaging, Blogging, IRC chat, Music, Graphics, Video (additional software required for encrypted DVD playback and proprietary formats), Digital Camera, Games, Ftp, Bit torrent transfer, CD/DVD burning and more.

If you are first time Linux user or someone migrating from Windows then PCLinuxOS 0.93a Junior is a great way to get started using Linux. After installing PCLinuxOS to your computer, you can access an additional 5000 programs and libraries from our free software repository.

The current list of programs on Junior can be found at http://www.pclinuxos.com//page.php?12l.

# Linux Users Owe Microsoft

by britbrian

**Place:** IT Planning room at: Newham Council, Munich City, Bristol City, Madrid City, Seoul City, etc.

**Chairman:** Well committee, thanks for the members' input and a big thank you to the OSS feasibility study group.

**OSS study group:** Our pleasure chairman.

**Chairman:** So your conclusion is, to migrate all of our departmental servers except the Windows Exchange server to Linux; migrate non technical staff desktops to ubumdo & OpenOffice and migrate everyone's email from Outlook to Evolution.

**OSS study group:** Umh that's Ubuntu.

**Chairman:** Ubuntu OK, and this migration will be staged over 16 months, correct?

**OSS study group:** Yes, first the IT staff will migrate so they will be able to train the staff, then the least technical staff moving on toward more specialized staff.

**Chairman:** What are training costs?

**OSS study group:** Actually about the same as when moving to MS's newest products every 3 years or so, but Linux desktop & OpenOffice training is a one time event.

*Door flings open*

**Ballmer:** Excuse me, let me catch my breath, hhh... hhh, hhhhh, here just got off the plane, OK?

**Chairman:** You are?

**Ballmer:** Steve Ballmer, CEO of Microsoft.

**Chairman:** Welcome to our fair city Mr. Ballmer; we weren't expecting you, please take a seat.

**Ballmer:** Well I've been flying a lot lately, haven't had time to formalize visits. Anyway, surprise!!

**Chairman:** Do you have something to contribute?

**Ballmer:** Well yes, we at Microsoft have come to accept the importance of interoperability between Windows and Linux, so we have accepted a wonderful opportunity from Novell to work together. We would like to offer you vouchers for Novell Suse desktops for a very fair...

**Chairman:** Excuse me, Mr Ballmer, but we have a very good recommendation to use Abundo, what is Sooz?

**Ballmer:** Suse is a LEGAL Linux that respects our IP, i.e., our INTELLECTUAL PROPERTY where as Unbundo steals our IP and robs us of our hard work and innovations.

**Chairman:** Thats very interesting, so Sooz can do everything that Abundo can do?

**Ballmer:** Absolutely, it can legally exchange documents with the STANDARD Office doc format; it can legally play multimedia using Microsoft media formats - legally.

**Chairman:** You said legally twice.

**Ballmer:** Oh yes, well WE own the INTELLECTUAL PROPERTIES in those other Linux ones.

**Chairman:** Specifically?

**Ballmer:** Well there's too many to mention, but just to get started, we invented the 3 button mouse, so all desktop menus using the middle & right button violate our IP and all Linux's do copy our mouse innovations.

**OSS study group:** Hmm, Mr Ballmer is confusing the Linux kernel with the Desktop Environment?

**Chairman:** Wait a minute, I'm talking to Mr Ballmer. So Linux has mouse IP violations?

**Ballmer:** Yes and thats just the beginning. You see we

invented everything to do with Windows, and Linux simply copied it all. The developers and distributors haven't paid us for our IP. So we have generously agreed to help Novell out of this legal difficulty by promoting their Suse distribution that THEY FULLY OWN. We propose for five years not to sue Suse users, but we are open to other distributors joining our generous offer. Otherwise we will be obliged to our shareholders to seek financial remedy from all the commercial distributions STEALING OUR IP.

**OSS study group:** Uhmm Mr Chairman, Microsoft is trying to...

**Chairman:** So Mr Ballmer, Suse is what you recommend?

**Ballmer:** Yes, then you will have full interoperability with Windows that just works.

**Chairman:** OK, we will accept your recommendation and use Suse.

**Ballmer:** Then in five years, the agreement will end and you will be able to upgrade to Vista and Office 12 that just works.

**Chairman:** Would we save money by staying with Windows?

**Ballmer:** Of course, let's talk details privately.

**Chairman:** Meeting is adjourned, the city of ... thanks the OSS study group and all those who have contributed to this productive meeting. We will upgrade to Windows Vista.

## Plea for Help

The PCLinuxOS Hardware Database project needs your help. For those who may not know, this database is being developed to make it easier for PCLOS users to determine in advance how well a piece of hardware works with PCLOS. It takes a lot of work to sort through all the possible hardware and develop such a wealth of information into usable form.

Jmiahman posted recently that he was not receiving much information from the community. Please take a moment and visit the site and provide what information you can regarding your hardware. We all will benefit in the long run. Thank you.

# Guide to Installing Diablo II LOD with PCLinuxOS and Wine

by Misfit138

Even if you don't run LOD (Lord of Destruction), you may find this guide has some useful pointers for Wine in general, and older games.

This quick guide is assuming that you have Wine installed through Synaptic (or apt-get), that it is version 0.9.23, you are running PCLinuxOS 0.93, are using Alsa, and have your proprietary 3D video drivers installed. If you have no 3D drivers, the 'nv" drivers should work with Nvidia cards, and the game should work in 2D mode, if you follow these instructions. I have also installed on the Intel 810 onboard video chipset, with 100% success, in 2D mode only.

The game runs velvety smooth on my newer machine, even better than in Windows.

Hardware:

EPoX EP9NPA+ Ultra
x2 3800
2gigs RAM
eVGA 7600gt
Crummy old dumpster-diving Compaq S700 CRT monitor

Also works quite well in 2D mode on:

Compaq Presario
Celeron 733
256MB RAM
Intel 810 onboard video
Crummy old dumpster-diving Compaq S50 CRT monitor

**Step 1.** Launch Wine's configuration tool.

**Step 2.** Click on the graphics tab. Enable desktop double buffering, allow the window manager to control the windows, and emulate a virtual desktop at 800x600 resolution. Uncheck pixel shader support and scroll down to vertex shader support. Choose "NONE," then click apply. (Note, if you cannot see the "apply" button, you  are probably at 800x600 resolution on your 'true' desktop. Just hold down the alt-key and click on the configuration window to move it up a bit, so you can click it)

**Step 3.** Click on the applications tab. Scroll to Windows version, choose "Windows XP," and click apply.

**Step 4.** Click on the Audio tab and choose ALSA, uncheck OSS.

**Step 5.** This is perhaps the most important step. Change your PCLinuxOS Desktop resolution to 800x600. This can be done by right-clicking on the desktop and choosing 'configure desktop'. Scroll down to "display". If 800x600 is not available, then you must edit your /etc/X11/xorg.conf file to allow 800x600 resolution. (**<span style="color:red">WARNING</span>**: If you fail to change your desktop resolution to 800x600, Wine will crash during a patch update, as it will fail to be able to communicate with your video card and you will get an error message stating that the patch archive is corrupt. The install will be unusable at this point.)

**Step 6.** Have some coffee, take a break. Read some Mark Twain, read the Gentoo install manual. We will be installing the game in 2D mode, using virtual desktop. "Why," you ask? The answer is a bit elusive, however, my best guess is that the original version of the game only supports 640x480, and Wine has a hard time communicating with the video card when  your true desktop resolution is above 800x600. Only after you have upgraded to the Lord of Destruction Expansion Pack, will you be able to get the game to have 800x600 support, then the virtual desktop will be at 800x600, your true desktop can then be set to 1024x768. You may then disable the virtual desktop option and play the game in full screen mode! Next, we can enable vertex and pixel shader support, and 3D. You may experiment at your leisure with various desktop and virtual desktop resolutions, (**<span style="color:red">AFTER THE INITIAL INSTALL!</span>**) but the following steps

are known to work with my hardware. Note, if the desktop resolution is at 1024x768, Wine **will** crash during the patch install and you are stuck! I cannot stress this enough!

**Step 7.** Install the 'full' base version of the game (1550MB) through the Wine file manager, from virtual drive D. Register, or read the readme if you wish. (It does a body good, and somewhere a baby dolphin dies if you don't.) Run the video test. Ignore the recommendation and choose the 2D driver.

**Step 8.** Launch the game in single player mode to make sure you are getting video. Run around a little to make sure you do not freeze.

**Step 9.** Launch Battlenet. The game will detect there is a newer version and will patch you up to the latest version. If you followed my instructions, then you should see a progress bar during the patch installation process because Wine was able to shut off your 2D video. You can stop here and enjoy your new 2D install through Linux! What is better than this? (Well, 3D I guess.)

**Step 10.** If you purchased the LOD expansion, install it now, and launch battlenet once more. Again you will be patched up to the latest version.
**Step 11.** Go into single player mode and hit the "esc"

key for options/video. Choose 800x600, apply, and exit. (Note that 3D perspective is unavailable.)

**Step 12.** Run a video test through wine/start/programs/diablo II/video test. Skip the test and choose 3d driver.

**Step 12 ½.** Run the Wine configuration tool and choose vertex and pixel shader support under the video tab.

**Step 13.** If you are feeling lucky, restart the game and you will notice that under video options, 3D perspective is now available!

Now that you are done, you may use up to 1024x768 resolution for your PCLinuxOS Desktop, and the install will still work. I have not tested above that resolution. You may also want to disable the virtual desktop option in the Wine configuration tool at this point. This yields the most realistic playing experience, as the game will truly be full screen. You can also launch the game from a terminal, through KDM, and play in full screen mode! Just enter the command: wine 'c:\Program Files\Diablo II\Diablo II.exe' (exactly as typed, at the command line.) This option also works better for older machines with 256MB RAM, the game will run quite smoothly.

# How To Install Programs From Source Code

by mwananchi

On PCLinuxOS, it is strongly advised to install programs only from the official repositories through Synaptic, and users are advised to look there first for programs they want. If a program isn't there, it can be requested on the main PCLinuxOS forum in the request section. Sometimes, installing programs from source may be a more desirable option than the previous two, and this is a tutorial on how to do that. Installing a program from source is a 3 stage process.

## Running a configuration script

In this stage, a program checks to see if the system meets all of the program's requirements and some other, system-specific variables. A custom install can be built by passing various options to the script at this stage. If a system fails to meet the requirement, the script will stop with an error message specifying what requirement wasn't met. Synaptic should be the first place to go look for the missing program, library, etc. Often, what is needed is the development package of the program; development package names usually end with "dev."

If a `--prefix` option is not passed to the script, most scripts will use `/usr/local`, but others will use `/usr`. For the sake of consistency, it is generally advised to pass this option. It is a convention in Linux to install personal programs in `/usr/local`, and to have the ones being managed by the distro, in `/usr`. This ensures personal programs/versions can coexist with the ones being managed by the distro (through Synaptic).

Some programs will have a list of programs that must be installed for the configure stage to pass successfully. It might be a good idea to check the requirements before running the configure script. This will allow you to avoid the annoyances of having to meet each requirement, one at a time (often referred to as dependency hell). Some programs will have a readme file with the source code; it is a good idea to read this file first, before doing anything, as it may contain specific instructions. The help option (`./configure --help`) might provide other useful options, if a custom installation is desirable.

## Make

In this step, the source code of the program (usually in text format) is translated to machine code (binary format ). This stage is usually the longest (it could take a couple of minutes, or many hours for large applications). The make program will bail out at the first sign of trouble and, if you don't want to go through the source code to correct the trouble yourself, I would suggest you just delete the program and forget about it. Then you could exercise your option to request the package in the request section of the forum.

## Make install

The last stage is the installation of the program (assuming the previous stages passed successfully). At this stage, the binaries made in the previous stage are placed in the appropriate places in your system and necessary changes are made to make them run. Desktop icons, entries to the menu, and file association entries are not made; these must be done manually.

These 3 stages can be done step by step or all at once. From inside the folder containing source code of the program to be installed, press "F4" to launch a terminal, then type: `./configure --prefix=/usr/local` (note the dot at the beginning). When that's done, type: `make` to build the program. Finally, type: `su -c make install` to install the program. This last stage will prompt you for a root password (assuming you are not root already).

Those 3 stages can be combined into a single line with this command: `su -c "./configure --prefix=/usr/local ; make ; make install"` if you are not root, or just with: `./configure --prefix=/usr/local ; make ; make install` if you are.

## Uninstalling the program

The program can be uninstalled with: `make uninstall` from inside the program's source code. This command must be issued with root privileges.

## Useful commands to know

`which program_name`

This command will return the full path of program_name that will be executed when any program just calls "program_name."

`whereis program_name`

This command will return full paths of all "program_name" installed on a system.
These two are useful if more than one version of the program is installed in a system.

## Interesting notes

If the `--prefix=/usr/local` option is passed to the configure script, binary files (or executables), aka .exe in Windows, will be placed in `/usr/local/bin`. Shared libraries (.so), aka .DLL in Windows, will be installed in `/usr/local/lib`. Documentation files, icons, images, and other necessary files usually go in `/usr/local/share`. Global program variables will usually go in the /etc folder.

### The Bleeding Obvious
*Believed to be in the public domain*

There was a really angry user who called, saying the company was **@#$!#** and its products were **!@#$@**, and Tech Support was **@#$*!** too. He said he bought their graphics card, and it didn't work, and what the **@&$!#** was someone going to do about it before he sued their lying butt.

He didn't actually have the product.

———

"I've bought a stolen CDD3610 which didn't come with any software or cables. Could you please send that to me? I presume I do have the full 12 months warranty?"

———

**Customer:** "I would like to place an order."
**Tech Support:** "Unfortunately, we are unable to take orders over the phone. All orders must be placed on our web site."
**Customer:** "Web site?"
**Tech Support:** "You need access to a computer that's connected to the Internet in order to visit our Internet site and place an order."
**Customer:** "Where is the computer?"
**Tech Support:** "..."

# Screenshot Your Screensaver

by Tim Robinson

saw a post in the PCLinuxOS forum, asking if there is a simple way to grab a screenshot while a screensaver is running. Here's how to do that:

Right click a blank area on your desktop and select "Configure Desktop." Set your screensaver to come on in 1 minute or less.

Open KSnapshot and configure it to snapshot the entire screen, and set its delay to something longer than the screensaver delay (see screenshot on left). Be sure to select "Full Screen." Click the New Snapshot button.

Wait. The screensaver will come up, and after the delay, KSnapshot will grab a copy of what's on screen.
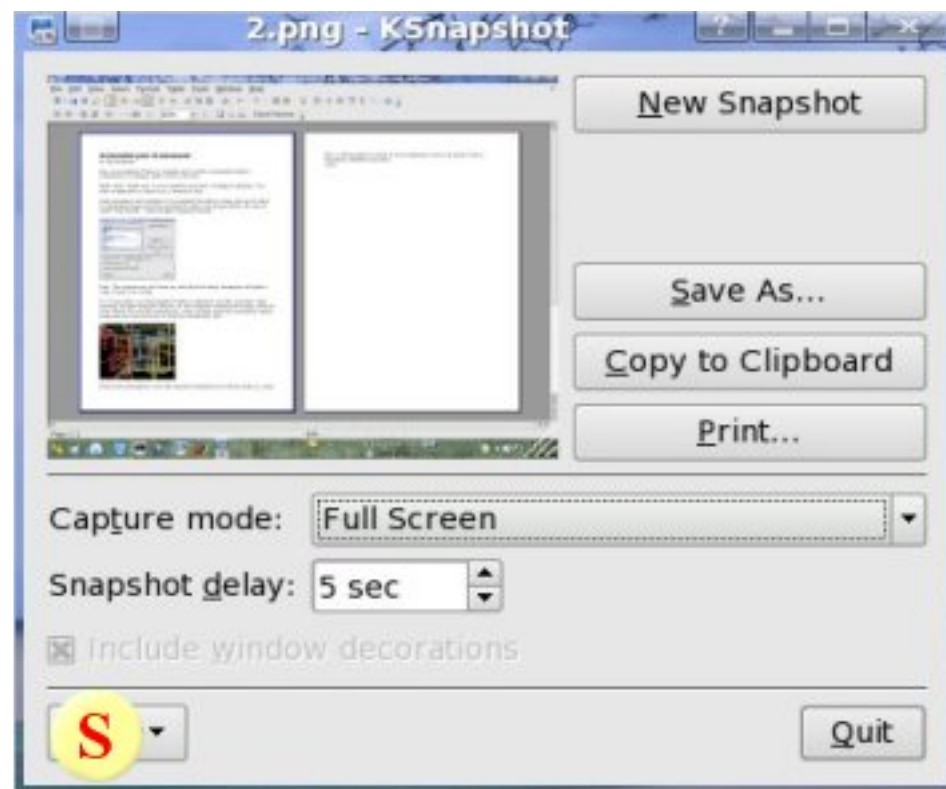
If you prefer, set the KSnapshot delay to whatever you like, and then, after pressing the "New Snapshot" button on the configure screensaver dialog, click the "test" button to start the screensaver. A few seconds later the screenshot will be made and you can press Esc to stop the screensaver test.
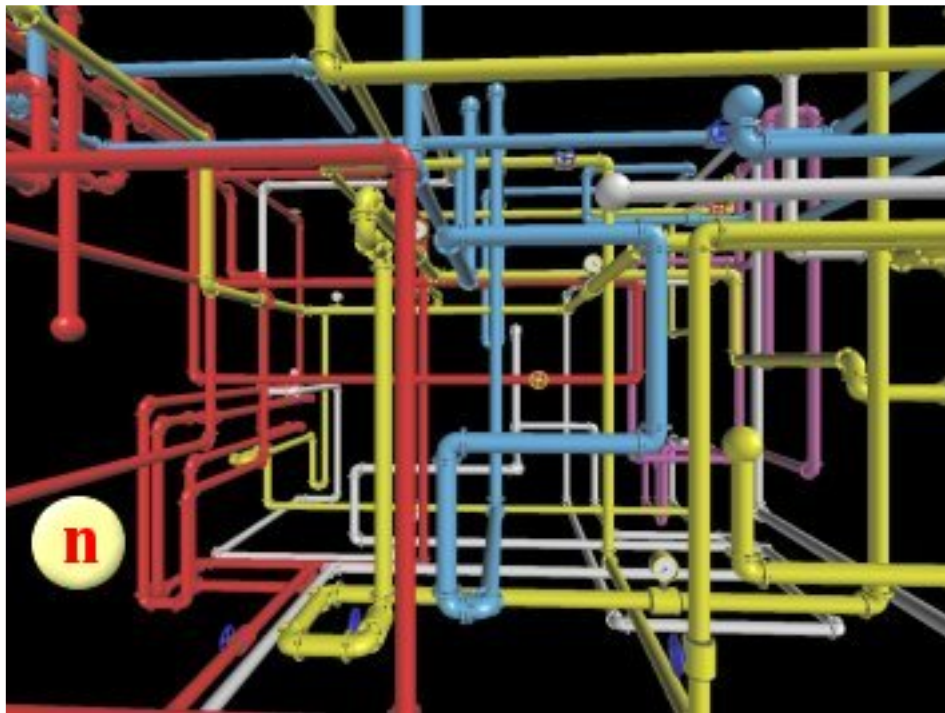


Once back in KSnapshot, save the snapshot somewhere (it will be saved as a .png file) or tell KSnapshot to place it on the clipboard so you can insert it into a document of your choice.

## The Bleeding Obvious
*Believed to be in the public domain*

A haughty caller to the Claris Works cue began haranguing them about the Claris Works she'd just bought. When her tirade abated enough for them to ask a few probing questions, she explained that the box promised a word processor, but there wasn't one inside. I asked her to insert the disk from the box into her computer.

Customer: "Computer? I don't have a computer!"
Tech Support: "Ma'am, Claris Works requires a computer."

From here, she became irate. She dragged in two levels of supervisors, several lawyers, later. No one ever laughed and always maintained a professional demeanor. The customer is always right.

———————

A woman walked into the room and came up to the desk marked "COMPUTER HELP DESK" with computers on it, one of which was being used by a customer service person. "Excuse me," she asked. "Do you know anything about computers?"

# Desktop Changes

by Rodney Adkins

At one time we were all "newbies." Making the transition from Windows to PCLinuxOS is not a great leap. Most people would find the desktop on PCLinuxOS as simple to use as any in MS Windows. Unlike Windows, where you cannot change or customise things very much, there are a lot of options in PCLinuxOS that can be changed to make your desktop feel completely yours.

One of the things I like to do when I look at a new distro, is get under the 'hood' and see how much I can change things to my liking. One of the advantages for me, is that PCLinuxOS allows me to change almost anything I wish.

Personally, I do not like any icons on the desktop, so the first thing I did when I had PCLinuxOS up and running, was to drag and drop the trash can into the task bar at the bottom of the screen. This gave me access to the trash can and allowed me to get it off the

desktop. Next I opened KDE Control Center, clicked on "LookNFeel," clicked "Behaviour," and cleared the box with "Show icons on desktop." This cleared all my icons off the desktop and gave me the feel that I like.
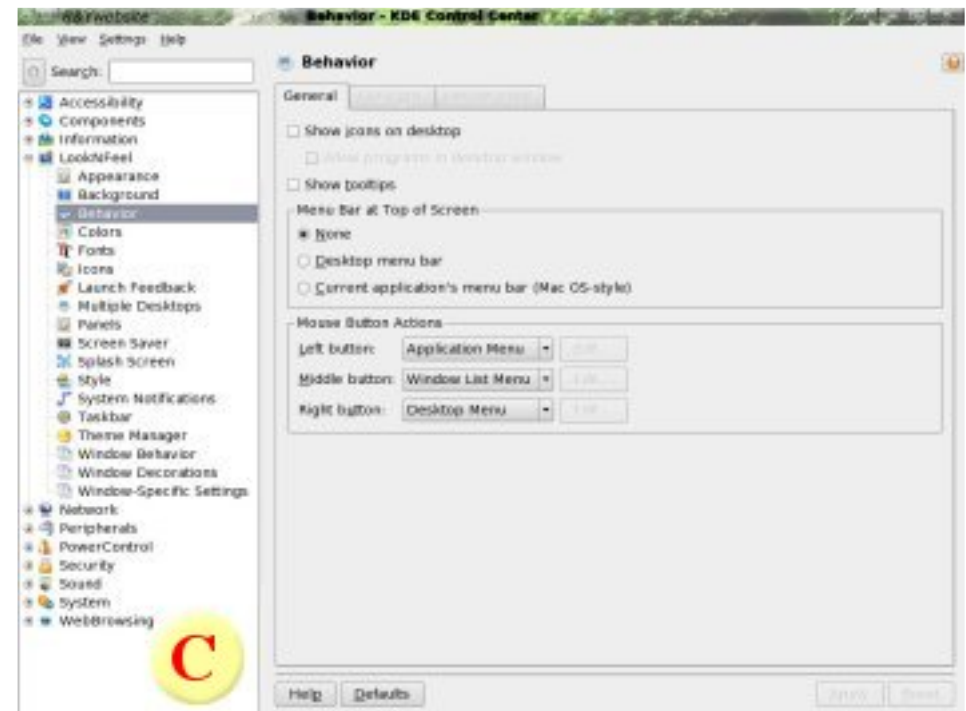
Playing in the KDE Control Center, I soon found that I could change the look and feel of the menu, and how it worked. One of the most annoying parts of Windows for me, was the fact you had to go to "Start" to shut down the computer. I was pleasantly surprised in Linux, especially with PCLinuxOS, when I found that I did not need the launch button at all. Still in "Behaviour," under "Mouse Button Actions," you will find an area for the left, middle, and right mouse buttons. Under the left mouse button, change it so the choice is "Application Menu." What that allows you to do is go to the task bar, remove the Launch Icon, and you can now launch your menu by clicking any area of the desktop. I have gotten so used to this method of launching the menu, that when I work on a computer that does not run PCLinuxOS, I have to stop and think how to launch the menu!

In KDE Control Center you can also change the colors of the menu, and the look of your program. Just go to "Colors" and change things, to get the 'look' you want. Also, you can change the font size and font type under Fonts. Personally, I downsized the fonts to 12, and on my menu I prefer a size 10  Verdana font for a cleaner look.

One thing I really like about PCLinuxOS is when I click on "Panels" in the KDE Control Center, it allows me to do some things that Windows never did. I can

now change the Taskbar to how I want it to look and react.
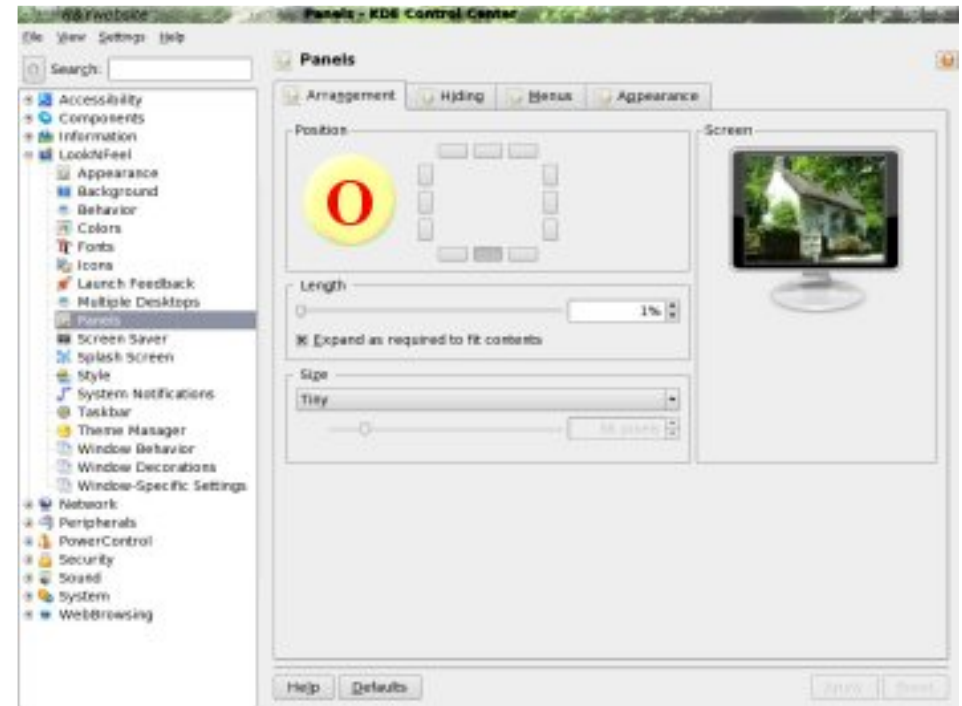


As you can see in the picture above, I have shortened the length of the Taskbar to 1%, and changed the height to 'Tiny'. To center the Taskbar, I clicked on the middle bottom button. By clicking on the "Hiding Tab," you will find that you have choices of how to hide the task bar too. I chose to have mine hide immediately. Then I clicked on "Raise When The Pointer Touches," and chose the bottom edge of the screen.
I also changed the size of the menu by clicking on the

"Menus" tab. Under "Menu Item Format," I clicked 'Name Only' and chose to leave "Side Image" showing. I like to have as small and compact a menu as possible, so the only thing I left clicked in the "Optional Menu" was 'Find'. Under the "Quick Browser" menu I unchecked the box and changed the number to 1. Under the "Quick Start" menu I chose 0.

If you click the "Advanced" tab you will find a section on "Panel Background." Click "Enable Transparency," click on "Advanced," and a pop up window will appear that shows a slide bar. Slide it to "Min. Tint Amount". The Taskbar is now transparent. Personally I like the transparent look. To make the menu somewhat transparent to match the Taskbar, click on "Style". Under "Widget Style" choose "Plastic." Click the "Effects" tab.

Under "Menu effect" change it to "Make Translucent". Enable "Menu Drop Shadow". Select "Software Tint" under 'Menu translucency type' and change the 'Menu opacity' to your preference. For me, around 82% was enough. Under "System Notification" you can turn off or on the system notifications that you like, or want to hear. Under "Taskbar" make sure it is set for "Transparency."

By playing with the other options in the KDE Control Center , like "Theme Manager," "Window Behaviour"
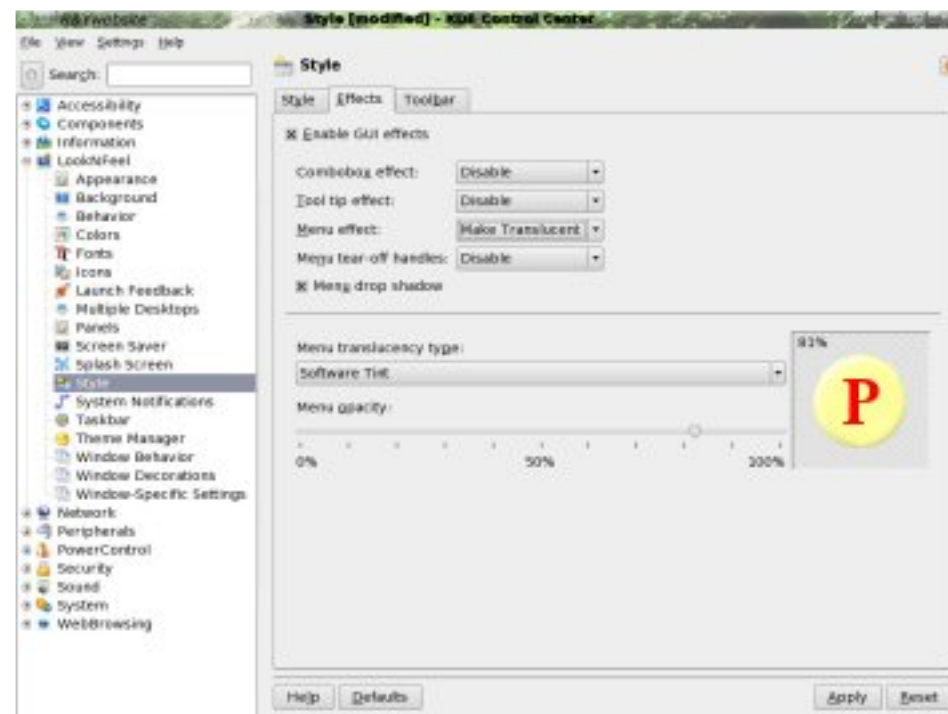
and others, you can make PCLinuxOS look and feel your own. Don't be afraid to get in there and try things, nothing will break. The one thing I personally would not activate in the KDE Control Center right now is "Translucency", which can be found under "Window Behaviour". My advice is to leave that feature off. I have found it is not yet perfected and seems to make my system a bit unstable. Now that the KDE Control Center functions have been explained a little, you can have fun exploring and changing the desktop to suit your needs.

# The Simplest Way To Rip Audio CDs

by lakicsv

had been using various programs to rip CDs to MP3 or Ogg, until I saw the following tip (this blew me away with its simplicity):

A) Insert your audio CD

B) Open Konqueror

C) Type audiocd:/ in the address line of Konqueror and hit enter

D) You will be presented with a number of (virtual) folders called Ogg Vorbis, MP3, FLAC etc. plus some .wav files outside the folders.

E) If you want MP3s, just click on the MP3 folder and drag the appropriate files (MP3s from your CD tracks) to your desktop or a folder you created somewhere in your home directory. Encoding is done on the fly as Konqueror copies your files.

You can customize the ripping parameters in the KDE control center. The filenames will appear with CDDB information automatically (if the CD is found).
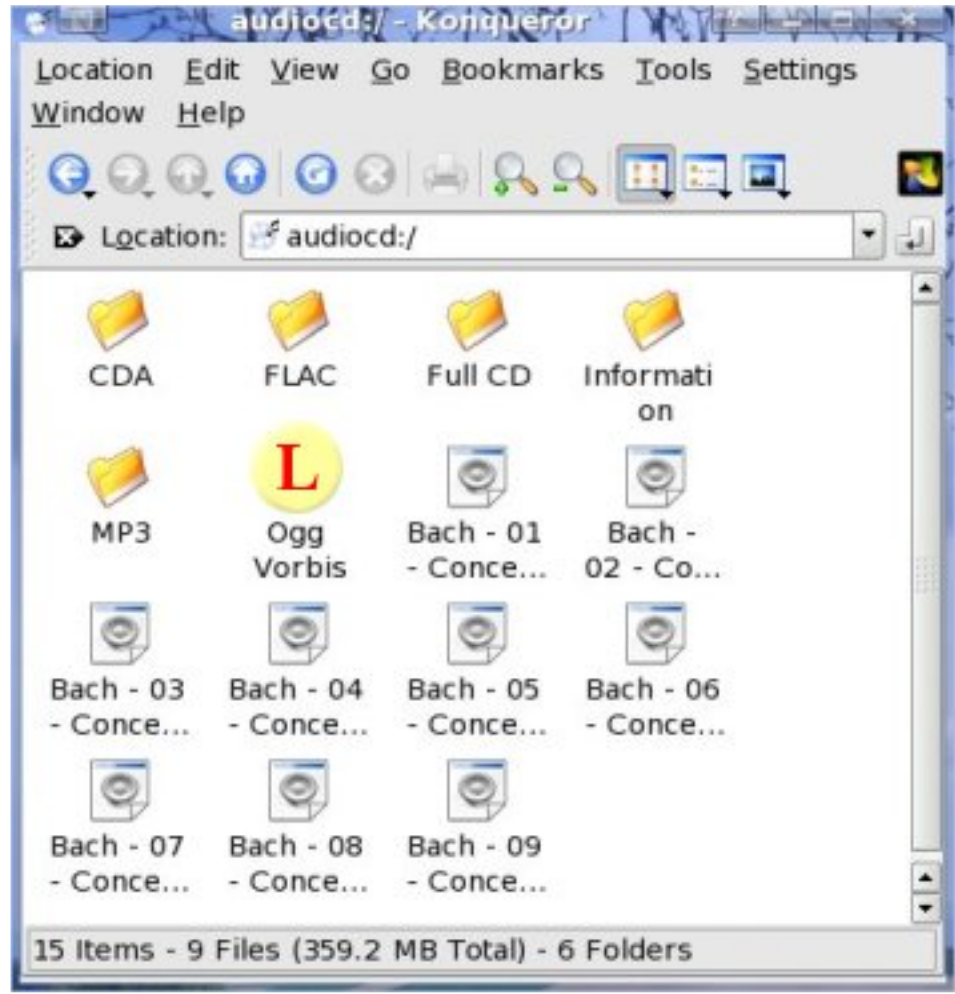
# Creating A DOS Boot Diskette

by Clareoldie

## Intro

There has been a lot of interest lately in older computer hardware. All the older computers I have contain a floppy disk drive. Besides having files archived to floppy, I also use some DOS utilities at times. The purpose of this article is to describe how to create a DOS floppy boot diskette, from within PCLinuxOS, to which you can add small utilities designed to work from DOS. Such tools as System Analyser (http://www.sysanalyser.com/) or a BIOS upgrade can be used in this fashion. Most users will have an old MS boot diskette around somewhere, but these are usually full and other utilities cannot be added without deleting something. In this exercise we will create a DOS boot diskette using "free" software.

## Method

The first thing to do is acquire a floppy image file. You can download a suitable one from www.fdos.org/bootdisks/. For this exercise, the zipped file FDOEM.144.imz is suitable. Create a directory called "bootdisk" on your desktop. Download FDOEM.144.imz into the "bootdisk" directory. Using Ark, extract the file FDOEM.144 from FDOEM.144.imz to `/home/<your_user_name>/desktop/bootdisk`. Next, place a floppy diskette in the floppy drive and without mounting it, right click on the floppy icon (on your desktop) and format it as Primary, 3.5 inch 1.44 MB, DOS, using Full Format. Give it a label if you wish. It is a good idea to verify the integrity of the diskette also.

Please be aware that all previous content of the floppy will be irretrievably lost when you do this.

So now we have a prepared floppy diskette and a boot image for it. The next job is to "burn" the image to the floppy. As with bootable CDs, it is not sufficient to copy the file to the media. To "burn" the image, open **File Manager-Super User Mode** and navigate to the directory containing the floppy boot image file FDOEM.144. Select **Tools -> Open Terminal** and a terminal will open with root privileges. Be careful what you type in here as any instruction you input will be carried out, even if it means destroying the operating system. With the unmounted floppy in the drive, type in the following and finish by pressing the 'enter' key

```
dd if=FDOEM.144 of=/dev/fd0
```

Be aware that Linux is case sensitive, so be sure to type the file name exactly as it is saved on your system. If your floppy drive is mounted at somewhere other than /dev/fd0, then use what is suitable for your system, in its place.

This command should cause the floppy to be written to. It will take a few minutes to complete, so give it time and wait for the prompt to re-appear. You should now have a bootable floppy and I suggest you re-boot your computer, with the BIOS set to boot the floppy first, to check that all is OK. If it is, you should be greeted with the A> prompt after booting. All that remains is to re-boot with the floppy extracted, and when in PCLinuxOS you can add whatever program/utility you wish to the floppy, for use the next time you boot it.

# PCLinuxOS MiniMe 0.93a

Texstar announced on August 9, 2006 the availability of PCLinuxOS 0.93a MiniMe for download.

PCLinuxOS MiniMe 0.93a is the minimal version of our Live CD for those who just want a basic desktop without the bloat allowing for full user customization. Simply put the CD into your CD or DVD drive and run it in live mode without ever touching anything on your computer. In addition to the Live CD mode you can also save your changes to a usb key disk.

PCLinuxOS MiniMe can be installed to your computer by simply clicking on the install icon on the desktop and using the easy to follow instructions provided you like PCLinuxOS and it runs well on your computer.

After hard drive installation, you can access over 5000 programs to fully customize your desktop the way **YOU** want.

PCLinuxOS MiniMe comes with the latest 2.6.16.27 kernel, a basic KDE 3.5.3 desktop, CD Installer, Synaptic Software Manager and Control Center.

# mklivecd Bug Fix

by Clareoldie

On the last release of PCLinuxOS (.93a) a bug became apparent after some users failed to create remasters of their install, with the output showing a series of =========. This only affected users with separate `/home` partitions and consequently was not discovered for some time. The fix is relatively simple, requiring an edit of the `mklivecd` file. Details on how to implement this are given below.

As user go to **Kmenu -> Applications -> File Tools** and launch **File Manager Super User Mode**. Navigate to `/usr/sbin/` directory and right click on the `mklivecd` file. Select **Copy** and then right click in the pane (but not on a file) and select **Paste File**. Select **Choose New Name** and save the file; `mklivecd.bkp` might be a good choice. The original file is saved with the new name in case of mishap and will allow you to restore it if necessary. Go back to the original `mklivecd` file and right click; choose **Open With** and select **KWrite** or your preferred editor. In the **View** menu of Kwrite enable **Show Line Numbers**. This will place line numbers in front of each line of the file. The edit requires you to remove **–mount** from three locations. In turn scroll to lines 734, 739 and 750 and remove the **–mount** part of the line. Be sure to delete the **–** as well as **mount**. **Save** the file. You should be good to remaster your installation now. The lines are listed below with the parts to be removed in **red** (be sure also to remove the space following **–mount**).

```
(734)       do_cmd("(find $o_root -mount -
type d


(739)       do_cmd("(find $o_root -mount -
type f 2>/dev/null | sed -e
's,^$o_root,/,g' | grep '$ex' | sed


(750)       my @files = qx(find $o_root -mount
-type f 2>/dev/null);
```

# Partition Tables Explained

by hankurt

Many people have difficulty understanding how the partition table on their hard drive works. The master boot record (MBR) contains the partition table, which contains the location of up to four primary partitions on the disk. One primary partition may be designated as a logical partition, allowing an operating system to treat that primary partition as any number of logical partitions. We will not discuss logical partitioning in this article. The information for each partition is 16 bytes long (each byte is usually shown as a pair of hex digits, e.g. 0f).

Here's a typical partition table entry.

```
0001b0 00 00 00 00 00 00 00 00 48
04 07 c9 00 00 80 01
0001c0 01 00 06 0f ff e0 3f 00 00
00 b1 45 0f 00 00 00
0001d0 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00
0001e0 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00
0001f0 00 00 00 00 00 00 00 00
00 00 00 00 00 55 aa
```

There is only one partition on this drive, and the information that describes it is at address 0x01be to 0x01cd ( the red numbers in the table above ). If there

were more, the second partition's data would be those shown in green, the third partition in purple, and the fourth partition in brown. I'll copy those numbers for the single partition below, and color code them for easier reference.

```
80 01 01 00 06 0f ff e0 3f 00 00 00 b1 45 0f 00
```

The first hex number (red) gives two pieces of information.  If it is 00, then the partition is not the active partition ( does not contain the boot loader ). If it is 80 or greater, as in the example, this means it is the active ( bootable ) partition.  Only one partition can be marked as active. The second piece of information applies to fixed disks. If the first fixed disk contains the active partition, this number will be 80. If it were the second fixed disk, this number would be 81, and so on.

There are two ways that the location of the partition is specified in the partition table entry. The first is the Cylinder Heads Sectors method (CHS). The three light blue numbers (01 01 00) specify the CHS location where the partition begins, and the three dark blue numbers (0f ff e0) specify where it ends. Sectors are the smallest unit of space and cylinders are the largest unit of space. Or to put it another way, there are so many sectors per head, and so many heads per cylinder ( this is important when you try to do math

with these values ).

Now to extract the actual values from the hex numbers above. Sorry, but this gets tricky, and I don't know if I can explain it well. The Heads value is easy, it is the value of the first byte and can be from 0 to 255 (decimal). To get the other two values, we have to convert the hex numbers to binary. The Sectors number is the lower six bits of the second byte and can have a value from 1 to 63. To get the Cylinders value, we take the remaining two bits from the second byte and add them to the high end of the bits from the third byte. These 10 bits allow for a cylinder value from 0 to 1023. I will demonstrate with the CHS values from the example.

## Partition Starting Location

```
1st Byte   2nd Byte   3rd Byte
   01         01         00
   01                           Head 1
         00000001 00000000  Bytes
converted to bits
         XX000001                Sector 1
         00-----> 00000000
                   0000000000 Cylinder 0
```

## Partition Ending Location

```
1st Byte   2nd Byte   3rd Byte
   0f         ff         e0
   0f                            Head 15
         11111111 11100000  Bytes
converted to bits
         XX111111                Sector 63
         11-----> 11100000
                  1111100000 Cylinder
 992
```

Since a partition always ends on a cylinder boundary, we can tell that the drive geometry is 63 sectors per head and 16 heads per Cylinder (counting head 0). So the partition begins on the first sector of the second head ( remember head 0 ) on the first cylinder. Since there are 63 sectors per head, the partition begins on the 64th sector. To see which sector the partition ends on, we would multiply 993 cylinders ( remember there is a cylinder 0 ) times 16 heads times 63 sectors. This gives us 100944.

The Cylinder Head Sector method only works on drives up to 8 gigabytes because that is the maximum size that can be specified with the three bytes. To get around this, a second method of specifying the location of the partition is used. It is called Logical Block Addressing, and it uses the last eight bytes in

the partition table entry. These bytes give the location of the partition by counting the number of sectors from the start of the disk, which is much simpler. The four bytes in green (3f 00 00 00) give the number of sectors before the partition, and the following four bytes (b1 45 0f 00) give the length of the partition.

```
80 01 01 00 06 0f ff e0 3f 00 00 00 b1 45 0f 00
```

We have to know just one thing to interpret these bytes. They are in "little endian" order. This means that the lowest "place value" is held by the first byte. So to use them like we use ordinary numbers, we just have to reverse the order of the bytes. So 3f 00 00 00 becomes 0000003f and b1 45 0f 00 becomes 000f45b1. Now we can convert these numbers to decimal. This tells us that there are 63 sectors before the partition begins at the 64th sector, and it is 1000881 sectors long. Thus the partition ends at sector 1000944. Notice that this is the same result we got with the CHS math.

## Last Piece of the Puzzle

In the partition table entry, the hex number 06 (in purple) tells which type of file system the partition contains, and whether the Cylinder, Head, Sector (CHS) or the Large Block Addressing (LBA) system is

to be used to locate the partition.  Here is a brief listing of file systems.

01    DOS file system with 12 bit file allocation table
06    DOS file system with 16 bit file allocation table and CHS system is used to indicate the partition location
0e    DOS file system with 16 bit file allocation table and LBA system is used to indicate the partition location
0b    DOS file system with 32 bit file allocation table and LBA is almost always used, however if the partition is in the first 8GB of the disk, the CHS numbers should be set correctly, otherwise, if the partition is past the 8gb boundary, the CHS numbers should be set to their maximum value.
07    NTFS
81    Linux
83    Linux ext2fs
82    Linux swap

There are other file system types, but these are the ones you will most likely run into.

The web pages where I got my information might explain it better.
http://home.att.net/%7Erayknights/pc_boot/w95b_mbr.htm
http://www.bitzenbytes.com/Content-Arcanum-18-1-14.html
and some wikipedia articles.

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