

Choosing a Linux distribution – January 2007

In Brief -

1. Decide the major activities that you want to be able to do with your Linux computer, and – in general – the software you will need to use for these tasks.
2. Choose your hardware and check Linux compatibility with a Live CD.
3. Select a distro which seems to meet the requirements of (1) and (2), install and use for a couple of months.
4. If you are satisfied, keep the distro. If not, repeat 3.

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In more detail:

Assumptions:

- You are using Linux as an individual stand alone workstation.
- You have ready access to the Internet

What do I want to do with my Linux machine, and what type of software will I need to do it?

Some alternatives are :

Basic Home Machine:

Desired software – WWW Browser, email client, basic office suite, software to manage a digital photo collection.

SOHO machine:

Desired software - As for basic home machine, plus perhaps fax and PIM tools. A basic database and associated tools may also be required, as well as presentation software. Organiser Software. Basic Accounting Software.

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Development machine:

Desired software - Most of the above-mentioned software. Additional development tools as required, possibly compilers, scripting languages, Integrated Development Environments. Industrial strength databases. Project Management Software. Specialist software for a particular purpose, eg/. electronic circuit design, CAD.

Games Machine:

Unless you want to develop Linux 3D games, probably best to consider Microsoft or a games console. If you really want a Linux games machine, you will need something similar to the development machine mentioned above. You will also need to do your homework thoroughly on your hardware, especially with reference to video cards.

Trying out Linux Machine:

Desired software – Typical set of applications. Any major distro and many micro distros will have enough software to try out a basic set of computer tasks, subject to your choice of hardware.

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What hardware do I have ?

Possible options:

- Existing Microsoft Windows Machine of recent (< 4 years old) vintage

- Existing Microsoft Windows Machine > 4 years old

- Existing spare machine of recent vintage, able to run WinXP

- Existing spare machine of older vintage, able to run Win9x

- A really old machine, eg/. a PII or PI.

Other Hardware Considerations:

Do I want to use strictly Free and Open Source Software (FOSS) ?

This typically will boil down to whether you wish to use a “free” distro, or whether you want to use a distro with one or more of the various “non-free” commercial software enhancements included, eg. MP3, Acrobat Reader, Realaudio etc.

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The advantages gained by using non-free software are -

- better performance, especially with video cards
- the ability to use specific hardware installed on your machine which may not work without freely available commercial software components, eg/. some winmodems.

The disadvantages of using non-free software are -

- you become dependent on the commercial software developers for updates to the proprietary packages, which may be problematic if you need to update a related FOSS component which has had an urgent security update.
- most of the non-free software packages will work only with a specific version of the kernel, and/or a specific distro.

The other “gotcha” caused by using non-free software with your Linux distro is that if you need assistance from a FOSS developer to get an item of software working, the developer may not be able to help if the problem involves both FOSS software and a proprietary package, as the developer does not have access to the source code of the proprietary package, and hence cannot determine the exact cause of the problem.

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Checking the Hardware:

Existing Windows machine of recent (< 4 yo) vintage running Windows XP.

Try out using a recent version of Knoppix Live CD. If you are using Knoppix, it is a good idea to print out the `knoppix-cheatcodes.txt` and `KNOPPIX-FAQ-EN.txt` files as a reference for troubleshooting. These files can be found in the `KNOPPIX` folder.

You can do this by putting the Knoppix CD in a running Microsoft Windows computer and using IE or Firefox to view and print the files.

Pay particular attention to the hardware you need to use, eg/. if you are using dialup Internet access, check that the modem works OK. If the display seems sluggish, check that the video card has been detected correctly and that the correct Xorg driver has been used.

This type of hardware generally has no or only minor problems, but can have winmodems and/or winprinters which may be problematic.

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Existing Windows machine of older (> 4 yo) vintage running Windows 9x.

Use the same checks as above. You may find that the machine runs Knoppix OK, but is very slow. In this case, consider the cost of adding more memory to end up with 256MB, particularly if you have less than 128MB.

A superceded or refurbished machine.

If you want to simply set up a Linux machine with the minimum of fuss and have it “just work” then a current major distro running on a machine that has a CPU running at around 1.5GHz with 256MB RAM and around 6GB free disk space will usually fit the requirements.

Add more disk space if you have a large collection of data files that you want to transfer to Linux, or if you anticipate generating a large amount of data. More memory and a faster CPU may be usefull if you want to use the machine heavily, but this hardware should be able to comfortably cope with the Basic and SOHO scenarios outlined previously.

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If you feel comfortable spending a little time optimising your distro after you have installed it, using the graphical setup tools provided and possibly the odd command line setup utility, then you can use a system box with a CPU running at approx 800 – 1000 Mhz and 128MB RAM with 6GB disk space.

Using a really old machine, eg/. an early ATX system.

Here, you will probably want to check out something like Puppy Linux or Damn Small Linux. These “micro” distros will do all the basics and enable an old machine to be brought back into productive use.

If you have a Unix/Linux background, you may be interested in Slackware or Debian Linux, but you will need to have some familiarity with Linux or be willing to spend quality time learning. However, a dedicated old machine can give the persistent beginner a very good Linux education, and end up with a highly customised machine.

In general, the lower the hardware spec, the more effort is needed to set up a usable “mainline” distro on the computer, but the effort can be extremely rewarding. Otherwise, a good micro distribution is preferable.

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Specific Suggestions - FOSS versions as at January 2007.

For “experimental” machines:

PIII 1GHz + 256MB RAM or better – **Ubuntu** (Gnome) or **Mandriva** (KDE)

Good range of software out of the box – a few niggles but no showstoppers.

PIII 600MHz +128MB RAM - **Slackware**

Will need manual disk partitioning and manual post install configuration. Good basic desktop and foundation for expansion.

PII + 96M RAM - **Puppy Linux** or **Damn Small Linux**.

Not as “heavy duty” as the above, but quick and very usefull for all the basics. Sometimes can get away with 64MB RAM – more is better.

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For day to day routine use.

PIII 1GHz + 256MB RAM or better - ***Mepis*** or ***Ubuntu***

Good “install and go” distros – almost everything works out of the box.

Mepis: One of the few distros which comes with a good firewall utility installed as default and set up. Currently tuning the 6.x release following change to a Ubuntu base. Good for multimedia use out of the box.

Ubuntu: Good general purpose distro. Needs user to install firewall utility first time on the internet. Also needs user to install multimedia applications and/or codecs for useful multimedia use.

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For Mission Critical use.

PIII 1 Ghz + 256 MB RAM or better - ***CentOS Workstation***

A Community based distro rebuilt from Red Hat Enterprise Linux source code with a few CentOS modifications and long term support. Some minor setup required. Stability and bug fixes take precedence over the latest software.

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Final Remarks on choosing a distro:

There is no such thing as a “best distro” for every situation. The distro you choose should reflect the answers you have given to the above questions.

When you have installed a distro, you may well find that there is some little thing that doesn't work as well as you would like – persevere, ask questions, and see if you can improve matters.

Avoid the Microsoft approach, ie/. don't uninstall and re-install – determine what the problem is and fix it.

Ask questions in the internet forums and Linux SIGs to get help.
Keep using the distro for at least two (2) months. Use the installation for all your routine day to day computing tasks, and use the included package management tools to keep the updates current.

At the end of that time, if you are still unhappy with using the distro consider switching to another one. You will now have a good idea of precisely what you want/need, and be better able to check out a new distro.

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Once you have found a distro that is working well, and coping comfortably with all your everyday stuff, **STOP!** For day to day use, if it's not broke, don't fix it.

Of course, if you would like to try out the latest and greatest, do so but preferably using a separate hard drive or system box. Consider a KVM switch if you want to use 2 different system boxes.