# Linux on the Desktop

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# Department of Statistics

- First Department outside Comlab to have a computer?

- Statisticians need computers

    - Computer intensive Statistics

    - Bioinformatics and Mathematical Genetics

# My Background

Computer Science Masters using PDPs and BSD Unix.

In a previous job I was part of a team managing the transition to Unix (actually AIX) from a proprietary OS for a very large user base.

Managed Statistics systems from 1991. Originally based on Sun.

# What this talk is

- A brief tour of the Linux desktop

- Some tips about making the transition from Windows to Linux easier for users

- Some of the common problems encountered by users making this transition

# What this talk is not

- Linux advocacy − this is being done elsewhere today!

- Highly technical −  although there will be some details about how we make the transition easier.

# Our Problem

Statistical packages used are developed in Windows.

MSc students taught on Windows m/cs and need nothing else.

DPhil students mostly arrive knowing Windows but will need to learn Linux as at some point. The majority will need to do substantial amounts of programming and need to access Linux based servers.

# Aims

- Support diversity: we have a broad range of users to support with a wide range of interests and ability.

- Constrained by costs and staff.

# What we can do

- Always ensure users have the choice.

- Build dual boot desktops and laptops.

- Make sure the two worlds interwork as cleanly as possible.

# Desktop m/cs

These are PCs running

- Windows 2000 or XP

  and

- Redhat Linux 8 or 9

Side issue − where do we go next? Waiting to see if the University buys a RH Enterprise site licence.

# Working in two worlds

How we achieve this:

A samba service on our central file servers
ensures the Windows network drive and Linux
home directory are the same.

Locally installed software such as LaTeX and
emacs are configured to look the same in both
environments.

# Cygwin and Wine

Packages that can help:

- **Cygwin**: Linux like environment for Windows

- **Wine**: run Windows programs on Linux

# Emphasise benefits

- Access to powerful compute servers.

- Better for programming: especially portability.

- Other motivating factors for students
    - Shell scripting

    - Configuring and running own systems

# User Education

Experience suggests that:

- Initially emphasing similarity helps:

  - Desktops: Gnome or KDE

  - Browsers: Mozilla

  - Office Software:  Open Office 1.0.1 or later

- Extra functionality: multiple workspaces, browser tabs.

# Too much choice?

- Linux offers enormous choice for users.
    browsers: mozilla, firefox, konqueror.
    email: pine, kmail, mozilla, thunderbird

- Not necessarily a good thing when learning as it can lead to...

- Option paralysis.

# Explain differences

The most obvious difference is the command line.

- Engaging in a dialogue rather than manipulating a control panel?

- Speed of response: usually know at once if something has not worked.

# More differences

File issues:

- A file is often used by multiple applications in Linux almost never in Windows.

- Case sensitivity and characters that should be avoided in file names.

# Difficulties

- Navigation: tendency to get lost. Need to know
  cd, pwd

- Remembering commands: there are so many!

- Finding things out: need to know
  man, whatis, apropos, whereis, locate

Part of the Unix philosophy that each command should do one thing well.

# Editors

- Emacs is easy to learn to use simply, hard to learn expertly. Customisation is not easy.

- vi is hard to learn initially but useful and necessary if you are going to manage your own system.

- Try very hard not to start religious wars. If people are familiar with something else then we can install it. Usually.

# Email

Not always straightforward to show an Outlook Express user that Kmail, or Mozilla, or pine, is a suitable replacement.

Perhaps surprisingly pine often ends up being the mail reader of choice.

Can help the transition if some web based mail system is available.

# Costs

- Current assumption that software costs are kept to a minimum.

- IT support staff time is expensive.

- Possibly not cost effective if only these factors are taken into account.

# VMware

When we last looked at VMWare it wasn't
sufficiently stable to be used instead of the dual
boot solution.

Perhaps it is now mature product now but
expensive.

# Finally ... you know you've got them

- when they understand and use

    find . -mtime -7 -exec grep -i conference {} \; -ls

- when pipes are used effectively

- and when they enjoy shell scripting