

# Enjoy the freedom

**There's more to Floss than just candy and dental hygiene – it's revolutionising the way people run computers. Robert Foster explains how organisations can free themselves from the power of the software giants in a caring, sharing social enterprise way**



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**M**any organisations, whether they are in the social, commercial or public sectors, think information technology is the solution to all their problems – but time and again IT projects fail to deliver the expected benefits. Projects are late, they cost too much to build, too much to maintain and too much to alter, and often don't do what they were meant to.

Although there is no total solution to IT problems, an answer to many can be found by using Floss.

Floss, short for 'Free/Libre and Open Source Software' is software developed, distributed and maintained using the 'open source' method. Unlike proprietary – 'closed source' – software, Floss can be used, copied, modified and distributed without restriction

(though not necessarily free of charge), subject to standard conditions, such as crediting the original authors of the software and making modified versions of the software available under the same terms.

It should be emphasised that the 'free' in Floss does not mean 'without cost'. Richard Stallman, founder of the Free Software Foundation, says it means 'free as in "free speech", not free as in "free beer"' (hence the inclusion of 'Libre' in the acronym in a brave attempt to clarify the muddy waters of IT terminology).

So 'free' is a matter of access, not price – it is a social phenomenon whereby developers, testers and users invest their effort for the greater good and anyone with access to a computer can reap the benefit. The behaviour of

this international community reflects the values we have within the third sector. Indeed social sector organisations all over the world are using Floss to their advantage – from Brazil to Germany, and France to China.

It's worth remembering that back in the days of room-sized computers with the processing power of a modern digital watch, companies made money on hardware and services, and all software was open source, although it wasn't called that at the time. Code was written and shared amongst the academic and user community. Software was almost an afterthought for the computer industry. Things have moved on somewhat since then, but with the re-emergence of the Floss movement it seems the more things change the more they stay the same!

# of the open source



## We all Floss...

15% of all servers worldwide run Apache/Linux (2004).

67% of all web servers are Apache source (Forrester Research, 2005)

The British Antarctic Survey uses Red Hat servers and Beowulf (Linux) clusters.

DreamWorks – creator of *Shrek*, *Madagascar*, etc – uses Linux on all its workstations and ‘rendering farms’ (the computers that add texture to wire-frame animations). It also uses Maya 3D software from Alias.

Audi and Ferrari use a range of Floss software.

NASA has a real-time variant of the open source Linux operating system for on-board spacecraft use.

In Germany, part of the finance ministry has moved its back office to Linux, the Municipality of Munich has 14,000 Linux desktops, and Deutsche Bahn (German National Rail) has transferred 55,000 Lotus Notes users to SuSE Linux infrastructure.

ICBC, the largest bank in mainland China, has deployed Turbolinux 7 DataServer on its 20,000 branches’ servers.

The Brazilian government has a policy of using Floss in place of expensive proprietary alternatives.

Newham Council used Floss as leverage to negotiate a better deal with Microsoft.

### Who is using Floss?

Open source software is attracting a great deal of interest from government departments and commerce as well as from the not-for-profit sector in the UK and abroad.

In fact the Office of Government Commerce (OGC) has published a report on the findings of its recent open source software pilot schemes. The pilots were run in partnership with government bodies to assess the viability of using open source software in government and the public sector. John Oughton, the OGC’s chief executive, said: ‘These pilots have provided us with valuable evidence on open source software. They show it could support government bodies by offering efficient and cost-effective IT solutions.’

It’s not only the UK government that likes the freedom, cost-effectiveness and security

of Floss – as the list of Floss users on the right shows.

So why are social enterprises, charities and voluntary organisations using this technology? What are the benefits of Floss? Open source software has many advantages over proprietary solutions, but those cited most frequently are:

- Lower costs.
- Protection against vendor lock-in and continuous upgrade cycles.
- More stable software.
- Greater security, thanks to the rigorous peer review of the open source development method.
- Adherence to an open standard.
- Simpler licensing and legal compliance.

Let’s examine these in more detail. Costs are certainly lower with Floss than with proprietary systems such as Windows, Macintosh, Solaris, etc – but they are by no means trivial. The classic calculation is ‘Total Cost of Ownership’ (TCO), expressed as:

$$\text{Cost per year} = (\text{Cost of acquisition and installation}) \times 5$$

This formula takes into account the costs of purchasing the software, its installation and configuration, maintenance, training, staff costs, patch management, and so forth. As you can see, with a small purchase cost TCO values for Floss begin to look very attractive.

However, the ‘Cost of Life Cycle Ownership’ model is beginning to gain some acceptance and even to supersede the TCO model. It indicates

## Floss applications for Linux and Windows operating systems

Type of software	Proprietary brands	Open source alternatives
Web server	IIS	Apache, Tomcat
Operating system	Windows 2000, XP	GNU/Linux, GNU/Hurd, various BSDs
Photo manipulation	Adobe Photoshop	GIMP
Office productivity	MS Office, WordPerfect	Open Office, Star Office, KOffice, AbiWord
Database applications and RDMS	Oracle, DB2	MySQL, Postgre SQL
Security	Norton AV, Symantec Internet Security	AVG, Spybot S&D, Ad-aware, SpamKiller, SSL/TLS
DTP and layout	QuarkXPress, Adobe InDesign	Scribus
Email client	Outlook, Outlook Express	Thunderbird, KMail, Evolution
Web browser	Internet Explorer	Mozilla, Firefox, Opera
Development environments	Visual Studio, Delphi, JBuilder	Mono, Eclipse, GNU/Emacs, KDevelop, LAMP Stack
Content management systems	Vignette	Mambo, Nuke-family, DotNetNuke, Plone
Operating system virtualisation	VMWare, Virtual Server 2005	Xen
Instant messaging, internet relay chat (IRC)	MSN Messenger, ICQ, Yahoo Messenger	Gaim
Accounting	Sage	GNU Cash

▶ that Floss adoption can be even more financially rewarding once the upgrade and transitional costs during and at the end of a system's lifecycle are taken into account. It is expressed as:

$$\text{Cost} = \text{Cost of acquisition and installation} + \text{Operational costs} + \text{Change costs}$$

This model is widely used by Forrester Research, which takes the view that 50-60% of life cycle costs occur within the 'change costs' category. The importance of this becomes clear when we consider that most major software upgrades require new hardware. If we can ensure our hardware has a longer working life we could drastically reduce our change costs. For example, I have found that even the newest version of Linux runs better on older and slower hardware than contemporary Windows software does on many newer machines.

Floss is almost always more stable, robust in operation and security-conscious than existing alternatives. This is due primarily to extensive peer review, which helps ensure best practice, and to open source software being designed to operate in a networked multi-user environment (unlike Windows and its predecessor, DOS, which were only ever intended to be single-user systems).

On issues of interoperability between systems and software and open standards, choosing Floss means you are choosing industry standards, not just de facto standards. Cast your minds back to the days of WordPerfect and Lotus 1-2-3. Software

packages will come and go, but you will always need to get to your data. This will be easier with open standards, and may well be impossible in 20 years if you stick with proprietary data formats.

Finally, think about this. You get a great discount on MSOffice so you buy a number of licences. Do you realise you have signed up for a constant software upgrade cycle from the same vendor? Oh yes, and a *hardware* upgrade cycle too. With Floss you can always go to another supplier of the same software who offers better support, training, configuration, or value. This freedom of movement helps counter the vendor lock-in so prevalent in the IT marketplace.

### How do I start using Floss?

The first step is to build understanding of the concept. People are often concerned that 'free' software must be sub-standard:

*'Will we be able to open our existing files and who will support this free software?'*

In fact, many Floss packages are leaders in their fields – with applications including Maya 3D, Apache, MagmaSoft and others.

Furthermore, Floss supports open standards, including document standards which will be around much longer than closed source proprietary data formats (*Does anyone still use EBCDIC?*). As for support, IBM, Oracle, Sun, Red Hat and Novell are all behind open source in general and GNU/Linux in particular.

Once you have secured support from management and colleagues, the next step is to introduce Floss into your organisation slowly. A pilot study or a limited deployment in a

### Licensing

Some of the better-known licence agreements creating the legal framework for Floss use are:

- GNU General Public Licence (GNU/GPL)
- BSD Licence
- Common Public Licence
- Creative Commons Licence
- MIT Licence
- Eclipse Public Licence
- Apache Licence
- Mozilla Public Licence

non-critical area is usually best. Well-proven ways to do this are:

- Through the data centre, eg Samba running file and print services, or MySQL or Postgre SQL relational database management systems.
- Use Floss for an intranet or extranet, with, for example, Apache and an SQL server delivering dynamic content.
- Add Windows versions of Floss applications to computers running Microsoft operating systems – see the table above for examples.

Although specialist applications are likely to remain proprietary software for the foreseeable future, Floss will become more common in operating systems, databases and other types of software with an extensive user base. It is already widely accepted in the data centre and in back office functions, and, although it is not generally ready for the mainstream desktop, it's only a matter of time. Floss will also tend to lead your IT staff towards a greater level of technical expertise as opposed to the lower levels of IT skills that have historically been needed to support Windows environments.

But remember, any changes you make to Floss source code will have to be released into the public domain. If there are intellectual property issues in your organisation you may need to consult your lawyers when deciding whether to use or alter Floss software.

Floss isn't a panacea, but it can offer significant benefits to all users – especially those in the social economy. ●

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