# Open Source in schools could save the taxpayer billions

In a previous 2005 report the Government quango Becta showed that schools could effect considerable savings by making use of Free Open Source software such as Open Office. In their study they simply looked at 'like for like' software replacement using existing networks and computers.

Since this study we have seen the emergence of the new breed of ultra-portable Linux-based computers aimed squarely at the education sector and the inexorable build of Web 2 services such as Google Apps.

This week the Elonex One, a Linux-based laptop costing less than Â£100, was launched at the Education Show in Birmingham causing much excitement amongst the visitors and a very serious discussion about how best to support this new breed of Linux laptops in schools.

So much has changed so quickly that a model of Open Source school computing is emerging which could save the UK taxpayer billions of pounds and provide enormous opportunities for the home-grown technology sector based around Open Source software.

The problem

The Government does not produce figures for the total cost of ICT in schools. Our research shows however that when staffing and power use are included a typical secondary school will spend between Â£100,000 - Â£200,000 per year on ICT.

Scale this figure for the whole UK and it approximates to over Â£Â½ billion per year.

Contrary to common perception, however, only a small fraction of the cost of ICT in schools is spent on computers and software - 60% of the cost is on technical support and 20% on electricity.

Quite simply, school networks have become too complex for the purpose they serve.

The answer is to simplify the school ICT infrastructure and lower services by outsourcing more services.

Outsourcing

Outsourced services based on free Open Source software such as e-mail, content filtering and remote backup are entirely appropriate to an education sector:

- Content filtering using Dan's Guardian is very powerful and scalable.

- E-mail using Open Source software is sophisticated, highly available and secure. Easy management of webmail and accounts using GOsa.

- Rsync for secure, remote back-ups.

Examples of where such services already exist are a bi-lingual webmail system accessible to all schools in Carmarthenshire County and the fully managed web content filtering infrastructure available to all schools within the Yorkshire and Humberside region.

In both cases the use of free, Open Source technologies has driven exceptional value compared to similar systems deployed using proprietary software.

Simplifying On-Site Infrastructure

Much of the complexity and management burden to schools comes the sheer number of computers needing maintenance - typically 100-500 desktop PCs and approximately eight network servers (file-authentication server, MIS database server, e-mail server, Intranet server, VLE server, thin-client server, web content filtering servers and a firewall).

But what ICT services do students really require from their school?

- Access to suitable software for teaching and learning
- E-mail
- Safe access to the Internet
- A home folder for personal file storage
- Access to shared resources (e.g. Intranet, VLEs, Public Folders, Databases)

How does the emerging model for Open Source in ICT meet these essential needs?

- The new low-cost Linux sub-notebooks have a very large range of Free Open Source applications already installed and many more available for free download, certainly enough for 95% of all educational needs. Many more applications are available on line through Web 2.0 technologies.
- E-mail and safe Internet access will be outsourced.
- Home folders and shared resources can be provided by one computer. By using Internet protocols and abandoning the venerable Windows SMP/CIFS protocols all of these services can be provided by one Open Source database/web server.

If schools moved their ICT to this model the spiral of ever increasing cost and complexity would be broken.

Becta, having twice warned schools against upgrading to Vista or Office 2007, has effectively signalled a halt to what has been an unbroken series of expensive and increasingly ineffective upgrades. It seems 2008 is the year when schools should take stock and rethink their strategic approach to ICT.

The rewards for change are very substantial. Schools would reduce their costs by 4/5ths producing not only an enormous saving to the taxpayer but making it possible to adapt to new developments in ICT and focus more resources on teaching. New opportunities would be created for the domestic technology industry and there would be far less dependence on dominant multinational suppliers.