

Linux triumphs in UK schools as hell freezes over

This post comes hard on the heels of an important piece of news... at least one Open Source company has become part of the Becta's official list of suppliers to the education sector. The new procurement framework under the aegis of the OGC relaunches the supply of ICT to education. The emphasis is clear: deliver value for money to UK schools.

It was not long ago that most commentators believed an Open Source company would join the likes of Capita, Serco and RM shortly after hell froze over. But times do change. In this case the driving force for change seems to be (we presume) the well-known cost-benefit values of Linux and other Open Source software. It's the Economy Stupid

As usual it's all about money. The Open Source community has always advocated that schools in the UK adopted Free Open Source Software (FOSS) on the grounds that there were considerable cost savings to be had which would directly benefit schools and the taxpayer alike.

As long ago as 2005 a report from Becta strongly supported this assertion. However this was a time when huge amounts of a cash-rich Government's money were being poured into developing school ICT and value for money was not really on the agenda. As a result the incumbent proprietary vendors enjoyed a feeding frenzy and Open Source solutions were ignored. Indeed it was impossible, despite persistent lobbying, to get an Open Source company on the official school suppliers list. As I said, how times change. If we revisit school's ICT finances 2008 we see a different picture.

If you are a school fund-holder you can forget about long-gone ring-fenced ICT funding and generous e-learning credits; forget about BSF grants; forget about the massive refurbishment 'refresh' monies and try not to think about the few super-rich Academies. The UK Gov has run out of money for the continual 'improvements' in school ICT, and an impending recession is hardly likely to restore the coffers, but, and this comes as no surprise, it hasn't run out of ambition.

Given that there are no monies waiting to be showered on school ICT projects from the Treasury, then there are only two ways of funding government plans for ICT in schools now. These are: donations from a generous philanthropic third party multinational software giants or try to wrestle it back from the schools to whom the money has been devolved (and being no longer ring fenced could be spent on crayons if they liked).

The former route, the philanthropic donor, involves, the cynics may say, attempts to sell a slow selling operating system to new generation of children via several well publicised 'access' initiatives this year.

Indeed, the source of the funds for this week's announcement that all poor children will be given £700 to buy themselves a computer with broadband access is not clear. It may well be Treasury (ie taxpayers) money but it is rumoured to be 'philanthropic' in its origination. In any case, the generosity of putative donors is not the thesis of this article. What concerns me is the attempt to claw back devolved money from schools to support a model of ICT which is unsustainable and unsuitable for school's needs.

Yes, schools have all the money now; the budget was devolved to while ago, but unfortunately the Government wants it back to fund their grandiose schemes.

Enter the IT Managed Service Agreements. If you are a school Finance Officer and for some reason you are reading this article the mere mention of the phrase Managed Service Agreement (sorry I said it again) will cause you to reach for the sedative bottle. To cut to the chase, you should find that your IT budget has just gone up by a factor of two or three. If you are a Secondary School put aside a cool £300,000 to have your IT run by the LA in companion with your local friendly outsourcing giant who will decide what kit you use and what software you can have. If you thought Microsoft was good at locking you in you have seen nothing yet.

Forget any freedom to allocate resources as you think would meet the needs of you students, any money you have spare may just fund the electricity needed to run the latest behemoth computers; pay the software licence-fees or the wages of the small army of technicians needed to keep it all going. How to hold two contradictory positions at once

Becta said it loudly nearly two years ago and they were right - the level of funding required by UK current ICT structures is unsustainable.

They weren't kidding then and as we prepare to hit the walls of a recession they sure are not kidding now. Moreover the cost of bidding for BSF and the squeeze on margins has caused the major UK ICT vendor to issue a profit warning. Schools can't afford to pay, the Government can't afford to pay and even the vendors are barely making a profit. Yet LA's are issuing compulsory 'refresh' agreements to state schools forcing them to spend on new ICT equipment and effectively coercing them into expensively outsourcing their ICT.

Forgive me for stating the obvious. The worms will at some point collectively turn. Will state schools be able to file for bankruptcy? There's a thought! In any case there will be a crisis just after a lot of taxpayer's money has been spent/wasted on a model of ICT in schools that is too costly, too slow, too complicated and too restrictive.

Let's call it the Computing-Crunch.

The 'model' in question was driven by the upgrade cycle, proprietary software and an administrative obsession with mega databases.

ICT in the classroom, as used for education, is (or rather should be) a completely different animal to ICT used by LA's and Administrators to control monitor and generally remove citizen's rights. Now I don't for one minute think the public funded schools can fight 'big brother' nor would I advocate rebellion (I do think it is a shame they should have to pay for it themselves... bit like being made to dig your own grave), but to inflict an inappropriate corporate style computing model on the education of our students is unforgivable and stupidly wasteful.

So far so depressing, but schools still have some wriggle room.

I would suggest that schools put aside a little cash labelled 'ICT money I will use for Education' and then change to a new Open Source paradigm for the classroom. Let the mega database driven school-admin-LA-Gov project fail under its own weight and forget about it. A Simpler Model

A step-by-step approach to reinventing ICT.

Before we start out on this particular tack one sentence on why it needs re-inventing. In case no one has noticed school ICT (GCSE et al) is a boring old fossil; anyone for groovy old 'desktop publishing' or maybe a cool 'PowerPoint' presentation?

Note the brand name of MS PowerPoint as a synonym for presentation software...a bit like 'Hoover' for 'vacuum cleaner' but marginally less exciting.

So out with the old and on with the 21st Century.

Step 1: Make sure you have a good, speedy filtered Internet connection. This is one thing you, the LA and the Government are keen on; all for different motives. If your LA is dragging its feet due to cost, tell them that is much cheaper to go for an Open Source solution.

Step 2: Get the teaching and learning materials you have the copyright to use digitised and stored somewhere. For example, e-text books provided by publishers, school worksheets and DVDs. You will need a couple of terrabytes for all those videos. A Linux solution will cost the least (<£2000) and make sure you have an effective way of searching for things. Choice here is Silverlight (Microsoft only), GoogleDesktop (freeware), Beagle (Free Open Source).

Step 3: Set up some information servers. These are essentially web servers which incorporate a virtual learning environment and optionally a wireless access point. Using free Open Source software (Linux-Apache-MySQL-PHP-Moodle) the DIY price will be under £1000 each. Place them strategically. Give them access to the outside world if you wish to work from home. The information server will access the educational materials stored on the storage server.

Step 4: Setup some terminal servers: One server will 'do' 25 clients. The terminal server is there to provide a consistent school desktop when for teaching purposes you require all the students to have the same application in front of them. Use Linux Terminal Server as this is a free Open Source Software. Again the DIY price is under £1000. If you want to save on hardware and energy costs then in Step 3 specify the server a little higher and using Xen (the free Open Source virtualisation hypervisor) install two OSes on the server one for the web server then another for the terminal server!

Step 5: Save time and energy. Rip the hard drives out of your existing PCs and set them to PXE boot to the Terminal Server. For ultra-quick boot up replace the motherboards with fast boot boards (5-10 secs from cold) which incorporate an embedded Linux OS.

Step 6: Turn off the photocopiers and printers.

Now, as a school you have "done your bit" as it were. Your school is now an electronic source of educational materials. You have an entire pedagogic infrastructure, which for a secondary school of 1000 students would cost (assuming DIY) well under £30,000 using Open Source products.

All we have to do now is to access this stuff. Back to Netbooks

The explosion of low cost so called netbooks brings PCs into the accessibility bracket of iPods. It seems (to me) that it is not unreasonable to make them personal learning access devices and the property of the student (along with conventional laptops). I know, not everyone can afford a £100 computer, but that is exactly the kind of thing that the state can intervene in to support with grants and loans. So let's leave this to one side or I will have to stop writing here or alternatively I could point out that if you actually carried out steps 5 and 6 you would be able to afford them yourselves.

The students can have whatever they like on their computers, they own them after all. They can access school materials by using them as e-books, or web browsers, (they could be running Google Chrome and web apps) or as VLE clients; anything at all. If you need big keyboards and screens don't forget all the old kit you still have with just that.

They all have wireless access and the school has wireless access points.

If you are desperate for a conventional ICT lesson where all learn to use, say, a spreadsheet (i.e. the very-same-spreadsheet for teaching purposes) you can either PXE boot to the terminal server or boot from a USB stick/cf flash card containing a super-fast standard school-linux distro (sys admins heaven). There is a lot in this sentence, more than one Windows school sysadmin has approved it.

Such an approach will I believe de-restrict ICT in school and unleash the creative power of ICT in education once again. No really it will. When was the last time you saw something different on the ICT suite? Once IT (as it was known) was the hotbed of innovation in schools, admired and feared in equal measure by more pedestrian subjects.

Leave the conventional network room behind, in fact shut it completely and turn off the air con. Leave the computers with their never-changing fossilised desktops and weary set of applications. Smell the coffee and chose freedom (ok in just one small part of the school). Conclusion

Please pick holes in the master plan above, maybe suggest some improvements but thanks to BECTA's change of heart you can now get your Open Source software straight from the OGC Web Portal from Gov approved suppliers.

The summary is: Internet-Moodle-Netbooks.

So, schools, with what little money you have left, leave the admin bullies to their games. You can do little to stop them, and set off with your students in a new direction. At least we will have some fun and with free, Open Source software no one can stop you!