Step Two: all computers have been loaded with a standard image and software. Discussions identified the key software needed to support student learning. Our board's curriculum ICT document clearly identifies the progressive learning scope & sequences and lists the appropriate software to teach these skills. School IT technicians organized these titles according to ones which could run from an academic server, and ones which needed to be installed on each computer. Software testing identified that as we moved up in operating systems, a few of the familiar older titles did not run well with the expanded colour or screen resolution… a rationale for dropping them and finding alternative titles. A common desktop wallpaper, a common folder setup, a standard lock-down style, and a standard logon format helped create a consistent look and facilitate teaching.

The next step was to pull all of this into a standard elementary software image, designed to run on the common computer model in all labs. This makes the deployment easier. Using Ghostcast, the IT Technicians transport the master "ghost" image, and set up one machine in lab to be the temp "server" for the lab to push the image out to all computers. Because all computers are the same make and model, this image "fits" them with little, if any, additional tweaking.

Step Three: the computers are secured against tampering and change. As I've mentioned in a previous article, we use DeepFreeze, a product that secures each computer against accidental changes or deliberate tampering. Simply restart the computer and it's back to the standard image, no matter what changes the student made. This, of course, means that students (and staff!) need to log on correctly so the work they create is saved to their server space… not left on the desktop or in the documents folder to disappear at reboot!

What are some issues with this approach?

Getting agreement about which software titles to include can almost lead to fisticuffs! If you had to choose whether to support Appleworks or Corel Wordperfect Suite or Star Office (all ministry-licensed "office" suites), which one would you pick? Would the teacher in the next classroom agree with you? Would the school across the county agree with you? We finally agreed that with a minimum 6 GB hard drive in our base computer, all of these could be included. This will mean our curriculum in-service staff still have to decide whether teach several packages or choose to teach only one and let the others slowly die out – a future discussion!

Clear language about donated equipment is necessary. We love our parents clubs and community support, and know they have the best of intentions when they find real computer bargains to buy or have hardware to donate… but from a teaching and support viewpoint, we cannot face such a mishmash of makes and models. The cost of purchasing a computer is only a fraction of its overall cost. The technical and staff development support necessary to maintain the computer over its 3-5 year life-cycle generally costs more than the computer itself. Unfortunately, at a time when schools are struggling with the challenges of integrating technology into the curriculum and maintaining their large technology investments, the reality is that accepting donated computers can be a significant cost and liability for our schools. Thus we have clear language in place, which explains our board's approach and defines the minimum standards and specifications we accept.

Stand-alone printers are another high level support issue. These low cost inkjets are cheap to buy and seem to be easy to plug in. The support costs are very high, however, as they eat ink cartridges, are easy to break, and generate frequent support request for print drivers that were not part of the standard image. One of our larger elementary schools (900+ students) has standardized network printers with centralized access. Each school section (primary, junior and intermediate) and the library have a networked printer in place. It's working well and we're exploring it as a model to adopt system-wide. Eliminating the inkjets (which have a very high cost in ink and maintenance) appears to be a viable cost and time-saving option.