Computing Facilities Manager’s Report

6 December 2002

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General

With 2002 all but finished (which is to say, I do not have any exams to mark) we are now planning and starting to execute summer projects. These are listed fairly fully in a web page\(^1\) and (for prettier reading) in a PDF document\(^2\). I plan to keep these reasonably up to date, but please get in touch with me if you have any concerns about any of this.

\(^1\)http://www.cse.unsw.edu.au/~geoffo/projects/end2002/index.html
Lab Issues

Summer Happenings

A number of lab-related projects will be happening over the summer, details are mentioned in the Summer Projects list. There will be a number of shuffles, the result of which will be to:

- replace the old computers in bongo, kazoo and lyre;
- replace the furniture in gong and fife;
- replace the carpet in drum and tuba; and
- replace the data cabling in all EE3 labs;

As part of the shuffling, either the EE3 labs or the EE undercroft labs will be out of service at various times. We will be scheduling work carefully to minimise disruption to teaching.

We will also be installing infoterms all around (as booking terminals, skyterms and print queue monitors. Regular readers will recall that this has been an ongoing project for many months; we are still having trouble getting our hands on appropriate small-cheap-reliable computers to suit the purpose, but we will be using some of the old small Compucon lab computers to initially deploy them.

System failures and other problems

Power

This has not been a good week for power. Wednesday last week a fire in the substation in Ruprt Myers building (which supplies K-17) caused an emergency shutdown of power for investigation and repair. Fortunately this could be delayed until 6 pm; nevertheless it took out the computer room and the rest of K-17 for several hours. My current understanding is that there is further work to complete the repairs. Thanks Matt and Simon for staying back late to get things going again.

Wednesday and Thursday this week bushfires in and around Sydney caused a number of power fluctuations across Sydney, causing a number of servers and other computers to reboot several times. By Wednesday evening it proved severe enough that we were obliged to turn off most of the computer room for a number of hours until the power supply had stabilised. Thanks Trent, Simon and Matt for staying back late and getting things going again.

Saturday this week there is another planned shutdown for the whole of K-17 for urgent repair work to be done to the distribution panels around the building; apparently they are currently unsafe!

One of our general login servers, weill has had ongoing problems for quite some time. It had been crashing, but only under the heavy load of several hundred students.

Policies and Procedures

For some time, parts of the CSG have been intermittently working on several proposals for policies and procedures:

Self-administered Computers

We are currently putting together policies and guidelines with respect to self-administered computers which are connected to the CSE network.

In essence, it discusses the responsibilities of administering a computer (back-ups, security, etc), what sort of support you can get from CSG (often not very much), what other resources are available, and what happens if bad things happen.

There is clearly an attraction in the flexibility of administering your own computer (rather than having to do things the CSG way, being able to install whatever you like wherever you like). In practise, system administration is difficult to do well. Every month or so a self-administered computer in the school is sufficiently vandalised by hackers, infected by viruses/worms or loses everything on an un-backed-up crashed disk that there is no recourse other than reformat and re-install. The cost of self-administration is a lot of work, the threat of getting it wrong is significant disruption. I could maintain my own car, however I choose to get a mechanic to do it.

A draft of this document is available for viewing and comment. The text is likely to change before it becomes formal policy, but comments are welcome.

Support for Laptops

Early this year the Computing Committee decided to investigate CSG support for laptop computers. Ideally, we would provide the same level of support for laptop computers as we currently do for CSG-maintained linux-based desktop computers.

Things to consider include:

- recommended lists of hardware
- access to a backup service
- timely software upgrades
- security monitoring

\[\text{4In practise, I don’t actually own a car.}\]

\[\text{5http://www.cse.unsw.edu.au/~geoffo/fc-reports/2002-12-06/self-admin.pdf}\]
• access to other services such as printing and networking

We have started a regular series of meetings to gradually work through the many issues involved. Although we have had three meetings, there is not yet a lot to show. Some good ideas still need to be fleshed out and proved to be viable. Interested people can look at the minutes of these meetings, also available in PDF.

Budgets

At this time of year I try to nail down our expected computing and lab expenses for the next year (and forecasting into the next five years). Though budgets are clearly uncertain at the moment (they change every time I bump into Kathy in the kitchen), well, you try anyway.

One of the features of our budget over the years is that we have, not surprisingly, been getting better and better value for our money. Now, even with our relatively modest budget, we are in a position where we can consider replacing computers after four years. We have previously expected them to last five years, though by that time they are perceptibly sluggish and the hardware becomes increasingly fragile in the fourth year.

Alternatively, we can continue to expect five years life from our computers but improve their configuration. We can’t really make them faster and there seems little point in putting even more memory into them for most purposes (standard new computer now has 512 Mb). Possibly a flat panel as a standard display instead of a CRT.

I am interested in people’s opinions on this. Please feel free to send me a note.

New Servers and Services

Server replacements

Over the summer we will be replacing six of our old server boxes which have reached the end of their useful life (they are generally more than five years old) and need to be replaced. As usual, we will, as much as possible, future-proof our purchases by buying fast little dual-processor boxes with a more-than-comfortable amount of memory. However, services such as YP/DNS do not require a particularly powerful computer and we plan to shuffle some of the upgrades down.

As a result, we will end up with new hardware for:

- **williams** simulations, etc
- **bach** miscellaneous services, such as samba and radius
- **chopin** web proxy
- **dvorak** web proxy
- **note** new print server, replacing **tone**
- **elgar** CGI server

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and upgraded hardware for:

- **maestro** primary YP/DNS server
- **bartok** secondary YP/DNS server
- **britten** secondary YP/DNS server
- **beethoven** secondary YP/DNS server
- **stave** print server
- **score** print server
- **frank** new CGI server

There is additional discussion[^8] also available in PDF[^9].

### Secure Wireless Connectivity

Whilst this is has been picked up as part of the Laptop Support issue, there is enough in this that we are having a separate set of discussions to consider how best to provide secure wireless access.

Security can be established at the moment via an SSH tunnel; and while this is not particularly complicated, it is not an obvious default and therefore laziness gets in the way of security.

The intention is to provide a simple client for most laptops which is trivial to use. At this stage, after just one meeting, we have simply canvassed a number of the issues. Amongst these are:

- **To what extent do we integrate with the campus-wide wireless network.** We could simply hand management over to them and our base stations become part of their network. There would be costing issues to work out. Also, the campus-wide wireless network has a couple of security issues we are concerned about which makes the option less attractive.

- **If we continue to manage our own network, what technology do we use?** Options include one of the several VPN protocols available. Do we need to run the same system on all clients (Unix, Windows and Macs), or would it be better to run different servers for different clients.

- **If we continue to manage our own network, can we get access from elsewhere on campus, or do people need to have two clients or client configurations depending on which part of campus they are sitting in.** It may be possible to “share” access points; that our access points are in the same VLAN as the campus-wide access points and that our clients can connect through an access point elsewhere and still connect to our servers.

All these are still options. At this stage we have picked a couple of “technologies” to see which might be viable. We still need to have several discussions with the Coms Unit. Please get in touch with me or with Neil Brown if you are interested in any of this.

CSG and Staff Stuff

Replacing Alastair Tse

We have recently had interviews to fill Alastair Tse’s vacancy in the System Support team. There was an very strong field of applicants (possibly a reflection of the weaker job market at the moment), with several excellent employable people. We have now appointed Claire D’Este (claired) to fill Alastair’s spot. You will soon start to see her name responding to SS mail. Welcome Claire.

Of herself, Claire says:

Claire is a Phd student with the AI group. She has previously worked as a programmer for New International in London, working on such important things as ‘Who Wants to be a Millionaire’, and as helpdesk support for a palm-top mobile phone. She is new to UNSW having studied undergraduate degrees at University of Tasmania and Queensland University of Technology. In her spare time she writes, directs and makes music for plays and movies, and attempts gymnastics.

A new System Support

We have also taken advantage of the quality of the field to offer a second System Support position (that team, and indeed the CSG in general has not grown with the school in recent years).

As I type, we don’t have a final offer+acceptance for this second position; we will let you know when all is clear.

Job Shuffling

As was mentioned in my last report\[10\], there has been some job shuffling within CSG. In particular, Trent and Zain had swapped seats and responsibilities. At that stage Tiina was still chasing dinosaurs across Canada and it was not clear what she wanted to do.

It is now clear that Tiina is also interested in system administration than in programming; and similarly Tiina and Simon have swapped some responsibilities. Tiina is now sharing management of the System Support team with Trent in an experiment till next June when we may or may not tinker with things again. Simon has moved from part-time to full-time, is joining Neil’s ‘‘programming’’ team, but is still spending some time helping out with SS.