Computing Facilities Manager’s Report
30 March 2001

Contents

General Status 1
  The Move ................................................. 1
  Start of Session ...................................... 2

Lab and Construction News 2
  New ASyst Lab ...................................... 2
  New HCI Lab ........................................ 2
  New undergraduate labs pipe and bugle .......... 2
  New Thesis Lab ...................................... 3
  The vina Lab ........................................ 3

New Systems 3
  The Wireless LAN ................................... 3
  CSG-supported Linux ................................. 3
  Windows support .................................... 4

Upgrades and failures 4
  New CPU Servers ................................... 4
  New fileserver ...................................... 4
  Solaris 8 ............................................. 5
  Staff/postgrad computer rollout ................ 5

Staff Issues 5
  New Staff ............................................. 5
  Broadbanding and Performance Reviews ........ 6
  Reclassifications: John and David ............... 7
  New Hardware Person Required ...................... 7

General Status

The Move

A major project for the CSG has been assisting with the move of the remainder of the school to K-17. With the experience of last year behind us and with some sensible planning in various aspects of the move, the whole process went on schedule and relatively smoothly. Within the CSG, John, David and Kieran particularly put in a mighty effort which contributed greatly to it all working.

I also appreciate that other folk in the school contributed greatly to the success of the move, making our part in it much easier.
Start of Session

The start of session is always a tense time for everyone in the School, including the CSG. This year, for the first time in a couple of years, we started the year with a full complement of staff. In terms of simple metrics, the number of outstanding items on the SS mail queue has mostly been less than 30, only getting over 50 once in week two (when queries were coming in about one every two minutes). Last year the queue reached about 150 outstanding items, which is close to unmanageable, with a similar blow-out in response times. The two new staff (see New Staff below).

There have, nevertheless, been several instances of inordinate delays in responses. Thank you for your patience, it is a tough time for everyone in the school.

The operations of the Undergraduate Help Desk were also smoother than previous session starts. Two contributing factors were the new location in the undercroft of the Mechanical Engineering building; and (for the second year) on-line ‘yellow forms’. Thanks to Angie Sweiss and all her team for all their work.

Lab and Construction News

New ASyst Lab

The study pods on the ground floor of the K-17 building have been replaced by two new specialist undergraduate laboratories. The first of these, the new ASyst Lab, is now on-line and available. It contains 20 new Dell computers with very smart looking LCD screens; and multiple network interfaces for it use teaching Advanced OS this session.

The ASyst lab is available for extended hours with swipe-card access.

New HCI Lab

The second ‘pod’ lab is still awaiting computers. It is due for use in second session 2001, and is likely to be equipped with Macs; final configuration yet to be determined.

New undergraduate labs pipe and bugle

Two new general access undergraduate labs have been built in the space of the old thesis lab on the ground floor of K-17. The are the pipe (26 computers) and bugle (20 computers) labs. Both have newish Intel-based systems and are running Linux (all other general access undergraduate labs are running Solaris-x86).

We expect that the thesis lab will move back to this area next year and so the furniture and partitions have not been changed. The high partitions mean that these labs are not particularly suitable for class teaching as line of sight is limited.
These labs are open for standard lab hours and are unlocked and locked by the Help Desk staff.

**New Thesis Lab**

For this year the undergraduate thesis lab has moved to the open plan areas of the Samuels building. The partitions have been adjusted slightly since its use last year as graduate student area, but otherwise little has been done to the area except cleaning and installing new computers.

At the time of this report, 20 computers (in the area nearest the front door) have Linux installed and running. The remaining 19 computers are planned to be running Solaris, but we are currently experiencing difficulties installing Solaris onto the hardware configuration. This should be resolved in the next couple of days.

**The vina Lab**

A new virtual lab has been created in one of the racks in the computer room. 18 new rack-mounted computers running Linux make up the new vina lab. It will be primarily used for distributed processing work and (logical) access to the computers is restricted. However, they are a very useful resource and can be made available for other purposes. Check with me if you are interested in using them, but remember that assignment work is likely to cripple performance on them at various times of session.

**New Systems**

**The Wireless LAN**

The much-delayed wireless network is finally up and running. Most of the delays were to do with delivery of hardware from Lucent through the Communications Unit, with a compounding factor being that Lucent changed their product line around the same time.

All of the K-17 building should now have good coverage, and shortly the lawn and the cafeteria will also be included.

We should have sufficient wireless cards for all staff and postgraduate research students who have a need or them. Please contact me or Chris Pterov if you are interested.

**CSG-supported Linux**

The CSG now fully supports Linux on Intel-based computers, as an alternative to Solaris-x86. We are using the Debian ‘potato’ distribution, with other packages as required. Our Linux computers are fully integrated with the rest of the school environment and many people will be able to move to Linux with very few problems.
Anyone receiving a new computer will be offered Linux as an option. Anyone who currently has a Solaris-x86 computer may convert it to Linux; get in touch with me or Trent Swift if you are interested.

Self-supported Linux is still an option for people who have an interest or requirement for this. Please talk to me if you are planning to do this. There are a number of important issues, including security, that must be addressed.

Windows support

Another much-delayed project has been a replacement for the venerable *wincenter* server. Our preferred option is a grunt Intel-based server running a number of VMware sessions. These sessions each emulate a separate Intel-based computer and on each virtual computer we will run a Windows session. As with the *wincenter* system, people will be able to open up a Windows session, running on the server, in a window on the local computer.

The model is nicely extensible by simply buying more VMware licences and, if necessary, another server to run them on. This provides a very simple and cheap option for providing, for example, Windows applications to people who have occasional need for the.

We had been trying to set up ‘suspended sessions’, wherein the virtual Windows computer is immediately available. But we have had a number of problems getting this working smoothly and reliably, and for the time being each new session opened will ‘cold boot’ the virtual computer and start Windows afresh. This works fine, but takes a minute or so to get started.

At the time of this report, this is all within a day or so of being announced.

Upgrades and failures

New CPU Servers

Replacing *faure* and *handel*, we have procured three new dual-processor Intel-based systems. The current plan is to run two as Solaris systems and one as a Linux system (to roughly reflect the proportions of the two Operating Systems in the labs).

One of the Solaris computers is likely to be designated for simulations and other long-running jobs which are likely to mix poorly with interactive processes. The other two computers will be general purpose CPU servers, particularly for people dialling in.

The Linux server, *wagner*, is on-line and available. At the time of this report we are still having some trouble getting getting Solaris to run on this hardware configuration but hope to have this resolved within the next few days and will announce both new servers as they become available.

New fileserver

We have a new fileserver soon to come on-line. It is the same sort of system as glass: a Linux-based RAID system providing NFS service. Much of the software
involved has been developed or tuned locally by Neil Brown and is now part of standard Linux distributions.

This will provide significantly more file space as the school continues to grow.

**Solaris 8**

People may recall that we had been planning to install Solaris 8 over the summer period, replacing Solaris 2.6 (the version number interesting go 2.6 \(\rightarrow\) 7 \(\rightarrow\) 8). With all the other work happening with moving and new labs, we did not have enough time to get this ready. Solaris 8 is still required in the future; it has become clear that Solaris 2.6 does not run on our new hardware, and new packages are expecting something more recent than 2.6.

We are currently working on Solaris 8 for the two new CPU servers and for the new computers in the new undergraduate thesis lab. Anyone with an Intel-Solaris computer who would like to upgrade to Solaris 8 should contact me or Neil Brown.

We may be upgrading to Solaris 8 during the winter break, or we may simply leave the labs running 2.6 till the end of the year — next year is likely to have Linux running in all the labs.

**Staff/postgrad computer rollout**

One of the effects of all the work mentioned above has been that the rollout of new and replacement computers for staff and postgraduate research students has had to be delayed. We have tried to make sure that everyone has had access to something that will work, but a number of people have been using old, slow computers that were really beyond their replacement date. Thank you for your patience.

Roll-out of the next batch of staff and postgrad computers will begin imminently, with probably a second batch of computers to be bought in the near future. We are currently replacing all the old Top Win computers and will be replacing the old Hypertec computers later in the year. Please let me or John Albani know if you have one of these so that we can schedule replacement. We believe we have already replaced all the old Auspac computers, let us know if there are any we have missed.

**Staff Issues**

**New Staff**

Late last year we employed two new staff members. The new people are:

**Matthew Chapman:** (matthewc) has started as a part-time System Support (SS) person, filling the vacant fifth position from last year.

Of himself, he says:
I am currently in my final year of a Computer Engineering degree at UNSW. Having some past system administration experience, and having been intimately involved with the CSE computer systems over the past few years, I have been able to settle into the SS role comfortably.

This year I am completing a thesis with Gernot Heiser. I have also been involved in Gernot’s Distributed Systems and Operating Systems research group, doing various work related to the L4 microkernel and Mungi, our experimental operating system. I have tutored a number of subjects at CSE, and previously was a tutor for the Australian Science Olympiads. I am active in the Open Source community, as a Samba Team member and the author of rdesktop, an NT terminal server client for UNIX.

Alastair Tse: (altse) has also started as a part-time System Support (SS) person, filling the position made vacant for this year while Tanya Warthenhoven fills the other half of Van Ly’s position while Van is working part-time while finishing his Master’s degree.

Of himself, he says:

Hi! I’m Alastair Tse, one of the new SSes down (or up) on the 1st Floor K17. Currently, I’m working (not so) hard to complete my last year of B. CompEng at UNSW. I was born in Scotland and arrived in Sydney in 94. In between, I spent my (short) life between Hong Kong and Melbourne.

I’m attracted to all things that are cool and/or good looking, that includes Sony Vaio’s, Linux, Nokia Phones, Infrared Mice, Wireless Networks (also my thesis topic), MP3 Players, enlightenment(wm), digitalblasphemy.com, lotus elise . . . etc, etc, . . . The list goes on — maybe I should write my own report :) I also enjoy watching Rove Live, playing indoor soccer, Counter-Strik’ing, sleeping and driving (not at the same time). Finally, my major weakness is my grammar, which, in part, is due to reading too much slashdot :(

Both have settled in well and are showing a high degree of competence within the first couple of months. This has helped greatly in the usual start-of-session rigours.

Broadbanding and Performance Reviews

As mentioned during the second half of last year, the CSG has established (with Human Resources) two ranges of broad-banded positions for most of the CSG staff. Part of this arrangement includes a performance evaluation scheme which will be used for assisting with progression through the broadband levels, inter alia. The initial stages of this have begun (agreements about performance goals for each CSG member).

Information about the broadbanded positions and the performance evaluation scheme can be found at http://www.cse.unsw.edu.au/~geoffo/performance.html.
Reclassifications: John and David

Most people will be aware that the positions John Albani and David Brunato were employed in when they started several years ago no longer reflects the work they do; and that an item on our agenda for some time has been re-describing their positions and reclassifying them. This has finally happened.

John’s position is now a Computing Support Team Leader (as are Neil, Peter and Zaïn), which is a broadbanded position spanning levels 7/8/9. David’s position is now a Computing Support Officer in John’s team (as are Kieran and Amalan), which is a broadbanded position spanning levels 5/6/7.

The broad scope of the responsibilities of John’s team are direct support of desktop computers (with a special responsibility for supporting the Admin and Office staff) and hardware support for other computing equipment in the school. This includes specifying, procuring and rolling out new computers; assistance with NT and Macintosh operating systems and applications; and managing repairs and maintenance of all school computers, printers and other related equipment.

New Hardware Person Required

A consequence of clarifying responsibilities of John’s team and its members has been that we are clearly short of staff resources for hardware support. The school now has over 700 computers used in a number of different modes; this number is increasing. The CSG is struggling to provide this support and it is clearly going to get harder. Over the next few months I expect to be working towards employing a new CSG person with particular responsibility for hardware support.