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Winter Projects

?? Info still to come, includes:
Video Cameras and Help Points

These will go into a number of foyers, labs and entry points, primarily for personal security. We have several cameras already and the core of the software system to manage the data is in place. Over the winter we will deploying those cameras in several critical areas with the intention of deploying them more widely at the end of the year.

Update our Debian distribution

We plan to update to a new snapshot of sarge. This is now a fairly standard procedure and, other than newer versions of most applications, there are likely to be no visible changes.

Acknowledging Local Involvement in Open Source Software

Some time ago, the Computing Committee decided that the school should host a Web page listing all major open source contributions originating from within the School including name of the project, short description, hyperlink, and status of the the project.

Ian Wienand has created the machinery to look after this page. This now needs linking in to an appropriate place in the School’s new webbery and minor changes to suit the School’s new style.

This is yet to be done.

CTAN hosting

We are likely to be taking on the role of ctan.unsw.edu.au, picking it up from Ian Maclaine-cross of Mechanical Engineering (who “saw a need” some years ago, thanks Ian).

This is also yet to be done.

CSE VPN

There is now an operational CSE VPN (PPTP) service. There is some documentation at ???; in the meantime anyone who is interested in using it should contact System Support.

Lab Changes

Laptop Lab Refurbishment

This progresses, final drawings have been finalised, colours have been chosen, as I type the work is going to tender for completion before session two (it must be finished by then as the work will obstruct access to the CATS rooms).
Re-modelling the ASyst Lab

There had been a plan to use the lyre lab (EE-316d) as an Advanced Networking Laboratory. However, there now appears to be sense in merging:

- the Networks part of the ASyst lab (session one teaching, requires reconfiguring the networking for the lab)
- the hardware and functions of the new Advanced Networking Laboratory
- some parts of the Networks Laboratory from the sixth floor of K-17

to create a simple facility, probably in the location of the current ASyst lab, which will be in use for both sessions.

This will require another location for Advanced Operating Systems, who have been running in session two in the ASyst lab. The current plan is to run it in the lyre lab (which would no longer be required for Networks).

Discussions are still underway on this.

Richard’s Security Lab

Richard Buckland has an interest in a lab all to himself (and his hundred students) for a new third year subject which will be looking at network security (advanced students only need apply). A dedicated lab is required so that students can have root access and can “crash and burn”. Space is rather problematic; and after some discussion we concluded that a virtual lab would suit him just fine.

The proposal is to replace the vina lab with new equipment available in time for second session. The old equipment, bearing an appropriate new name, will then be available for Richard’s class. Although going on four years old, it should still be viable for another year, maybe two. When it does need replacing, either we will have a physical lab available for Richard, or we can replace the new vinas and shuffle down (or maybe the subject won’t exist any more).

Server Changes

Mac Servers

The aging collection of Macs which host (amongst other things) the growing fleet of School databases, are about to be replaced by two shiny new dual G5 2RU rack-mounted servers.

Amongst other things, this continues to changing face of the rm111 computer room, as old bar-fridges and desk-top computers are replaced by neat 1RU and 2RU units. The computer room now has about three times the number of computers as when we moved in four years ago (which is why heat is an issue, see below) and still has free space. If anyone has not had a look at the computer room in the last year or two, feel free to come and knock and the door for a guided tour.
Other Server Upgrades

We will shortly be looking at replacing/upgrading a number of other servers in the next few months. Generally, this will mean disposing of the oldest generation of servers (which are out of warrant and the hardware is likely to be unreliable for server-grade purposes), buying some number of new servers, assigning the new hardware to services that would benefit from latest-and-greatest and shuffling that hardware to other sensible purposes.

There is not likely to be any noticeable effect from any of this, other than that the computer room will look even sexier and things will continue to work reliably for years to come.

Security Issues

Passwords

We have recently moved from old crypt-based to MD5-based passwords which are much stronger (that is, slower to attack).

Our old passwords have been reasonably strong. For some years we have been checking that they are not vulnerable to dictionary attacks. Given a reasonable key-space (the character set from which the password is taken), they should still be strong against brute force attacks (enumerating all possible passwords). However, given a poor key-space (say, only lower-case alphabetic characters), crypt-based passwords may be vulnerable to being broken.

MD5 passwords are much stronger. For the same key-length and key-space, they are about 1,000 times slower to computer. The longer key-length also dramatically increases the strength of the password.

The move to MD5 passwords has been slow coming, the main complication being the diversity of platform we have traditionally run in CSE. As we have been moving more to Linux for most of our services it has become realistic to consider things such as MD5 passwords.

There are further details in ?? gazette articles ??.

Similarly, we are also moving towards fully “shadowed” passwords. This has been problematic because of our requirement for NIS for distributing passwords, the NIS protocol and tools are not amenable to hiding the encrypted password. Again, as we have reduced the number of platforms we support, and have the source code for what we do support, then it is feasible to hiding encrypted passwords. There are still a couple of issues here to resolve before we can fully implement this but it should happen by session two.

Moving from NIS to another protocol (may LDAP) is another possibility, but this is a much larger project with many ramifications.

The internal auditors are also keen to change passwords; their idea of password strength being to change passwords frequently. Too-frequent changes are a security risk themselves as it encourages people to write passwords down or to switch between a small number of easily guessable passwords. However, occasional changes are viable and we will be looking at enforcing password changes, maybe at least once per year.
Port Scanning

Prompted by noticing (yet another) surge in port scanning coming into the School (yet another advantage in running our own firewall), Peter Linich has written a tool for automatically detecting several classes of port scans; is automatically blocking many at the firewall, is sending mail to our System Support of any compromised computers noticed within the School; and sending automatic email to the DIS Service Desk (which goes on to the people-previously-known-as-Comms) for other compromised computers on campus. In the first week of operation (after several weeks of monitoring and testing) some 500 reports of compromised computers were sent to DIS.

The faculty has asked us to send reports of compromised computers elsewhere in Engineering to the Dean’s Unit (the folk next to us in room 111).

The initial was a perceived increased in scanning related to a new Windows worm; however it looks like the current level of scanning is just “background radiation” from the number of infected boxes normally present on campus (even after all the post-Blaster warnings). We understand that Greg Sawyer is delighted to have these hundreds of complaints landing on his desk, to show his management the scale of the problem and that it really does need measures to address it.

Within the School, we are disconnecting any infected computers (as a matter of public health) and giving the owners/administrators aid in patching or rebuilding their system. We are currently refining the policy here, with the intent of protecting the rest of our computers/users while helping self-administrators to manage their computers better. One of the options we are looking at is a subnet which might be analogous to an isolation ward, which only has access to OS and security patch download sites.

Policy Issues

There are a number of IT policies that are being developed or refurbished at a campus level. The University now has an IT Policy and Compliance Officer, Jenny Beatson (j.beatson@unsw.edu.au, x52885). Jenny has been working fairly hard to consult with the various people who will be responsible for implementing these policies, and has been fairly effective in turning lumps of heavy-handed bureaucratese into well-worded policy that is likely to be implemented because it makes sense (rather than ignored because it is unworkable).

Policies currently being worked on, which the School has had some input into, are:

- Website Policy
- Internet Content Provider Code of Conduct
- Web Branding and Visual Design Policy (currently being split into a policy and a set of guidelines to make it more workable).
- Domain Naming Standard
The Web Branding and Visual Design policies and guidelines are currently specified for Faculties. Work is apparently going to begin soon for schools and units; we have been promised that we will have significant input into those documents.

There is also a campus-wide IT Lab Manager Working Group been convened (it is a by-product of the ICT Infrastructure Committee). This group has only met a couple of times and is still creating its agenda. We are currently doing a census of labs and lab computers. It looks like there are between two and three thousand lab computers on campus (we have about 500 computers in labs), so if issues of common concern do come up (maybe, personal security getting to and from labs in the evenings) there should be a large enough collective voice that something may be done.

Of specific interest initially was computer security: stopping computers from being hacked and preventing excessive downloads (and internet traffic bills). General solutions to security are difficult due to the variety of computing platforms. There is increasing interest in our own IPQ across campus to help solve the internet traffic problem.

Other Issues

Air Conditioning

This continues to be an issue for the school. The three general areas of problem are:

Old Main Building

There are on-going problems with the system cooling the three newish labs under the Physics Theatre that are particularly an issue when the Physics Theatre is not being used.

Something is happening, Ric??

Computer Room

The increasing heat load in the School’s main computer room has meant that the dual redundant units are no longer able to keep the room satisfactorily cool if one unit is out of service. This has been an issue several times. We hope that the work increase the cooling will happen during the mid-session break (there may be some interruptions to computing services).

Something is happening, Ric??

Room 111 Refurbishment

CSG, particularly John’s group and the System Support group, have grown by several staff since the layout of K-17 was first designed five or six years ago. Consequently, those two groups have been pretty much sitting on each other’s laps for the last couple of years. Slowly, plans have been made for laying those areas out more usefully and again making it a workable work environment. Work should be starting in the next few weeks. I hope.
Disruptions

Power

As part of the refurbishment of room 111 and the air-conditioning upgrade for the computer room, we will need to turn off power to the entire first floor for several hours during the winter break (to add more circuits to the floor distribution panel). This will mean shutting down the computer room (and almost all CSE computing services) for about half a day in July. We are currently arranging the time and date to cause the least disruption possible, and will be advertising this as soon as we have confirmation of details.

Staff Stuff

The Return of the Amalan

Amalan Sivaguru, who has been suffering from eyesight problems for some time, has been off work since before Christmas. He has now returned. It will take a little while for him to be fully back up to speed, but it is very reassuring to see his smiling face again. In due course, his return should make quite a difference to the stress levels in John’s group as Amalan again pick up care of laboratory hardware.