NSW Public Schools
The History of ICT in Public Schools
...as recalled by Stu Hasic
Our story begins in the 1980s

- **The Department of School Education**
  - 10 regions across NSW – 4 in Sydney, 6 outside Sydney.
  - TAFE was a totally separate entity at this stage.

- **The early reign of “Computer Education”**
  - a few geek teachers doing their own thing
  - Some got together to form the Computer Education Group. This was the starting point of the school computer coordinator

Apple IIe  Microbee  Apple IIgs  Apple Macintosh
While computers in the classroom were totally optional, suddenly they were mandatory in the office.

- **OASIS v1** was released – Admin / Finance / Library

Each school received:

- Two Netware Advanced servers to run the software
- Two Hyundai PCs for each of these buildings
- A dot matrix printer each for Admin and Library

This was the replacement of traditional paper-based systems with computerised versions.

- A lot of training was required as it was all very new.
- It was a world of floppy disks and keyboards. OASIS did not know what a mouse was (and interestingly, still doesn’t!)
1989 – Regional Information Technology Units

- Technology Units were formed in each regional office to directly support and train schools in the use of OASIS.
- These Units also managed the technology used in the Regional Office itself.
- An average of 7 staff appointed (only 2 were permanent) per region. In some cases, these IT Units were each supporting OASIS in well over 200 schools.
- Some Regions appointed a Computer Education Consultant to support ICT in the classroom.
Early 1990s – Apple Reigns Supreme

• Besides OASIS, schools are purchasing their own computers – about 80% are Apple:
  – The Mac IIcx was popular, but cost about $5000 each
  – Then came the Mac LC and LCII – more affordable at less than $3000
• Software is very expensive, computers still a rarity
  – especially in K-6 schools
• High schools start to network their computers
  – PhoneNet and LocalTalk over ordinary telephone cables
  – Some schools move to Windows 3.1 connecting them using Co-ax cabling (Ethernet 10Base2) via the OASIS servers
1994 – OASIS v2 and Netware 3.12

- All schools get their OASIS servers replaced.
- NSW DET signs an agreement with Novell to provide Novell Netware 3 to all schools, on as many servers as they like.
  - Now schools can make their own “Curriculum” servers for no cost apart from the hardware.
  - This starts a major surge in the use of Windows 3.1 computers which are cheaper to buy than Macs.
- Netware 3.1 was quite technical to setup and maintain
  - Many school CCs put in vast amounts of their own time to put together their networks – some even installed the cabling themselves
  - They were pushing the boundaries in a world where there were no official guidelines and the CC position was not even a real position.
1995 – The First Major Restructure

- Bob Carr wins the election
  - *Promptly breaks up the Dept of School Education from 10 Regions to 40 districts across NSW with 5 State Offices*
  - *Each District ranged from about 40 to 65 schools each.*
  - *The Regional IT Units which had about 80 staff in total were completely disbanded.*
  - *OASIS support was centralised to Newcastle, Wollongong and Bathurst*
  - *Local IT support was reduced to just 1 person – the District Technology Adviser*
    - This one person was somehow supposed to be on top of everything IT in every school in their district – some districts were enormous.
The Impossible Job of the District T.A. 
(and the Rise of the School Computer Coordinator)

- **40 T.A.s across NSW supporting 2,200 schools**
  - 40 different skill-sets, abilities and geographic barriers
  - Too many schools, growing implementation of computers
  - While T.A.s had email, schools did not (yet)
  - Local support within each school was very limited

- **The High School Computer Coordinator gains more power**
  - With limited support from the District, individuals in each High School were forced to stand up, taking control of all IT issues in their school – working to their own abilities
  - High Schools become very reliant on their CC
1996 – The Internet Arrives in Every School

• One Single Dial-Up Internet Connection provided:
  – Either an Ipex Pentium (46%) with Win 95 or an Apple Mac Performa 6360 (54%) with 33.6KBit/s modem & phone line
  – Netscape Navigator browser and Cyber Patrol Filtering
  – One eMail Account, ISP is OzeMail

• Schools immediately start to look to sharing the single connection across their existing network
1996 - Netware makes more inroads...

- More schools take on Novell Netware as their server operating system:
  - Department upgrades Netware contract to v4.11
  - Some standard support is offered by District TAs and Information Technology Branch
  - While Netware can handle Apple clients, it begins a shift, particularly in high schools, to Windows 95 clients
1997 – The Computers in Schools Program

• For the first time ever, the government starts rolling out computers to every school:
  – Over the next 3 years, 1 computer for every 12 students in each school
  – Schools can choose from 10 different vendors: 9 for Windows and 1 for Apple. By now it’s 50:50
  – Some funding starts to support CCs at schools

• In conjunction with computers comes TiLT:
  – A hands-on teacher training program over 3 years
  – 15,000 teachers in NSW trained (1/3 of all teachers)
  – Training targeted at low-IT skilled teachers
  – TiLT Coordinators and Facilitators based in each District
1998 – The SchoolsNet Project

- **Networkable ISDN Internet with Cisco Router:**
  - *Every school gets a new internet service with Telstra 64KBit/s ISDN line and Cisco 1600 Router.*
  - *Connected to each school’s local area network*
  - *Each school gets 3 email accounts (School/Principal/Admin) using Outlook Webmail*
1998 – Another Restructure

• The Departments of School Education and TAFE merge to form the Dept of Education & Training

  – 40 Districts are renamed “School Education Areas” (SEAs)
  – The initial merger mainly involved rationalising State offices, with TAFE’s IT directorate virtually replacing the School’s IT Branch.
  – TAFE is a Windows shop and centralised support for Apple and Netware starts to disappear.
  – New Microsoft and Symantec agreements make new software available to schools for free
1999 – The Y2K Bug Hits OASIS

- OASIS Y2K is developed and released prior to the year 2000 to avoid functional problems
  - Each school supplied with a single Netware 6 server
  - Admin/Finance/Library now delivered from one server
  - If the school had no backbone link between Admin and Library blocks, a link was supplied
  - Many schools utilised this backbone as a starting point to extend their LAN across the entire school
  - OASIS is still a DOS application with boot floppy disks

- Netware 6.5 is the last version of Netware offered to schools
With the first three-year rollout complete, CISP continues, now increasing rollout numbers

- Each school allocated enough computers for a 1:8 ratio
- The number of vendors rationalised down to 5 for Windows
- Optima, HP, Compaq, ASI, Hypec. Optima most popular
- By this stage, Windows is outselling Apple by 70% to 30%
- Schools can now choose to order Servers or Notebooks using rollout points
- Windows 2000 Server now released

TiLT Plus advanced training now offered

- Netware/Windows/Apple Server Administration
- Bob Carr announces e-mail for every teacher and student in NSW
  - And the NSW Teachers Federation places a work ban on it
  - Information Technology Directorate forge ahead, contracting Unisys to co-develop the solution for
    - Email, Individual web publishing, filtering and reporting
  - A small number of teachers choose to use the service from 2002 despite the ban
  - The ban is finally lifted in 2005 with many teachers getting their first ever email account in 2006.

- Web Services Project renamed to Authenticated Internet Browsing and Email
Every school gets a cable broadband upgrade, providing a minimum 2MBit/s sec gateway into every school, with many Sydney high schools getting 10MBit/s

- Five different ISPs used across the state
- Approximately 300 schools can only get satellite
- Each school receives a new Cisco 3550 Router

As soon as they get broadband, they flood it.
2004 – Yet Another Restructure

• The Schools/TAFE Merger is complete
  – The 40 SEAs now completely dissolve into the 10 Regions
  – District Technology Advisers now report to the Regional Information Technology Manager from TAFE
  – Some Regions remove the Technology Adviser positions completely, replacing them with TAFE Computer Support staff

• With all this change, there is no computer rollout in 2004 as CISP ended in 2003 and was not reinstated
2005 – Technology 4 Learning

• A new computer rollout commences – T4L:
  – Now down to three PC vendors statewide – IBM, Optima and ASI - plus Apple
  – Hunter Region gets Optima exclusively, Sydney Region gets ASI and the other 8 regions get IBM
  – 100,000 computers over 4 years (1:8 PC to Student ratio)
  – Regional Computer Support Teams established of between 10 and 16 staff per region (depending on region size)
  – Apple increased pricing for the new flat screen iMac again sees Apple’s share in schools decrease, now below 20%
  – Servers and Laptops available with rollout points

• DET Portal rolls out linking multiple DET apps
2006 – OASIS Thin Client

- OASIS finally runs under Windows – sort of:
  - Still a DOS application, but now running in a Citrix virtual DOS window.
  - The rollout takes 12 months commencing Term 4 2006
  - Schools are allocated a one-off replacement of computers for the Admin office and Library to support OASIS Thin Client. This rollout is called T4A.

- Meanwhile, in other news, Optima goes into receivership with many thousands of computers in schools now without warranty support
• Morris Iemma announces the Connected Classrooms Project:
  - All schools to receive an Interactive Whiteboard and Video Conferencing facility as well as On-Line Learning Tools and a further Broadband upgrade (N-GEN project)

• Kevin Rudd announces the Digital Education Revolution as an election promise
  - Every Year 9 to 12 student in Australia to get 1:1 access to a computer
2008 – NGEN and Connected Classrooms

• **NGEN – Next Generation Broadband**
  - *All schools start to get Fibre broadband connections supplied by Telstra*
  - *Another new Cisco Router*
  - *Minimum 10MBit/s broadband, scalable. Some sites get 100MBit/s*

• **Connected Classrooms start rolling out**
  - *To be completed by the end of 2010*

• **Planning for DER NSW underway:**
  - *NSW opts for a netbook for every student in years 9-12*
  - *Wireless to be supplied for every high school*
2009 – The Digital Education Revolution

• The New South Wales version of DER
  – Lenovo s10e Netbooks with security options
  – Windows 7 RTM (the first implementation of its kind)
  – Adobe Software Licences
  – Aruba Managed-Wireless in a Parallel Network
  – 10 Regional DER Managers, 50 Regional TSOs
  – 450+ DER NSW Technical Support Officers (TSOs)
  – Teaching and Learning Resources & Teacher Training

• T4L rebooted for another four years
  – Another 120,000 computers – limited brand choices:
  – Lenovo/Apple (Desktops), DELL Servers, Acer Notebooks
2010 – DER – “Moving Forward”

• The Impact of DER starts to show K-12
  – Windows 7 released for all new T4L computers
  – Office 2010 (2011 for Mac) released for all computers
  – Adobe CS5 suite released for all computers
  – DER Netbooks available on T4L for all schools

• BlogEd launched
  – Individual teacher and student blogs linked to the DET Portal
  – Instant to create, easy to use
  – In School and At Home access

• DET Yammer Professional Learning Network
2011 – “Business As Usual”

• The Concept of “Business as Usual” is born
  – Major projects like BlogEd and Connected Classrooms wind up and their ongoing management and support is absorbed into normal operations (“Business As Usual”)

• T4L Rollout restarted, but hardware delayed
  – No physical rollout of T4L hardware in 2011
  – Orders placed in 2011, deliveries in early 2012
  – Apple orders delayed due to OSX/SOE issues

• DEC Maang Professional Learning Network
  – Maang replaces Yammer as a closed professional network in all staff members’ Portals
2012 – Realignment Begins

- **eT4L Services for K-6 and SSPs:**
  - *Windows 7 and Office 2010 across the school*
  - *Standard server with self-service software delivery*
  - *Self-service PC rebuilds*
  - *Aruba wireless for Primary Schools*

- **LAN Remediation Project**
  - *Upgrading of network switches for K-6 and SSPs in preparation for eT4L Services*

- **iPads, iPads and more iPads**

- **Local Schools, Local Decisions**

- **Realignment of School Regions announced**
2013 and Beyond – The ICT Road Ahead

- **eT4L Services for High Schools** *(semester 2?)*
- **Student Administration & Learning Management**
  - SALM will replace OASIS and ERN in 229 schools in NSW as part of the LMBR Project
- No more Regions? Welcome to Group 2.
- DEC Yammer is back! *(If you’d like to join, email me)*
- Interesting times ahead!
What part will you play?
What is the Role of the ICT Coordinator?

What tasks does an ICT Coordinator do in a school?
What ICT Coordinators Do*...


All while teaching on a heavy load
...but here’s the crunch:

There is NO FORMAL position in any school for an ICT Coordinator!