



**For enquiries or mailing list  
amendments, contact:**

Client Service Counter  
Room 207, Ground floor  
Prentice Building  
Telephone (07) 3365 4400  
Facsimile (07) 3365 4477  
Email [help@cc.uq.edu.au](mailto:help@cc.uq.edu.au)

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## 90% of Supercomputer Capacity Used Within 4 Days

University researchers have been quick to take advantage of the new Silicon Graphics POWER CHALLENGE Supercomputer. The initial stage of the supercomputer was almost fully utilised within four days of installation.

Ease of use and superior computing power have made it extremely popular. Processes, which would have taken weeks - if not years - to complete on a workstation, can now be done in a day. The POWER CHALLENGE and ONYX Reality Engine have an exceptional ability to organise and analyse massive amounts of numerical data at speeds not seen before.

*What does this mean?* Quite simply, large amounts of data can be processed faster. But this is just the beginning. Those large amounts of data can be 'visualised' by using the powerful graphics options. Visualisation is the transformation of data into images. Data sets come to life when processed graphically. For example, the movement of droughts can be seen if numerical data is processed via graphics software. This powerful application has particular relevance to researchers who need to observe changes or transitions. The ability to digest massive amounts of numerical data and construct animated images can add a richer dimension to analysis. Visualisation software for the ONYX Reality Engine will enable transfer of computational models and simulations onto videotape for convenient viewing.

*Who is using it?* In Earth Sciences, researchers are using the POWER CHALLENGE to simulate slippage and stability of earth masses and determine whether earthquakes are predictable. Mechanical engineers use computational fluid dynamic techniques to simulate flow within the shock tunnel and expansion tubes. The results of the simulation are compared with experimental data to validate the model. In Chemistry, scientists studying organic reactive molecules, (which exist only for nanoseconds), model reactions, and calculate molecular structures and energies.

*Hardware and Software...* Now fully upgraded to a POWER CHALLENGE array with a 20 processor dual chassis, the system can run up to 300 percent faster than the initial 8 processor system. Software packages on order or currently available include:

- Quantum Molecular Simulations
- Computational Fluid Dynamics
- Computer Aided Engineering
- Mathematical Analysis
- Visualisation
- Statistical Analysis
- Molecular Mechanics and Dynamics

If your research team needs the power of supercomputing please contact: Wilfred Brimblecombe ext 53645, [w.brimblecombe@cc.uq.oz.au](mailto:w.brimblecombe@cc.uq.oz.au) or Martin Nicholls ext 54023, [m.nicholls@cc.uq.oz.au](mailto:m.nicholls@cc.uq.oz.au)

## Broadband Expands Network Capacity

The first elements of a broadband system with 30 times greater capacity than the existing ethernet backbone has been installed at the Prentice Centre. This new digital technology is a first for an Australian University.

Some clients who transfer large files between departmental LANs will already be noticing improvement in the speed of the network. The main benefit of this development is to allow network traffic to expand. UQnet was just reaching critical congestion levels before installation of the broadband network.

The installation supports the new supercomputing system. It is the first step in the planned integration of video services (such as the Campus Video Replay Service) and data services on the one network. This network consists of fibre-optic links within campuses and broadband microwave links between campuses. Integration of data and video traffic on one network will allow the development of new multimedia services and make existing services cheaper.

*Technical details...* The first elements of the Broadband Integrated Services Digital Network (BISDN) include a 6.4 Gbps capacity ATM switch supplied by General Datacomm and two 155 Mbps ATM cards installed in Bigred and Wallaby, UQnet's two central Wellfleet packet routers. In its initial configuration, the UQnet ATM backbone consists of two Wellfleet routers connected via 155 Mbps links.

## Computing and Video Courses

### Classes for August - September, 1995

#### Computing Courses

	<i>Date</i>	<i>Time</i>
WordPerfect for WINDOWS - Stage II	Aug 3-Aug 4	1-4pm
Introduction to MSDOS	Aug 7-Aug 10	9-12am
Introduction to WORD for WINDOWS	Aug 8-Aug 10	1-4pm
Introduction to NUDIST	Aug 8-Aug 11	1-4pm
Introduction to Macintosh	Aug 10-Aug 11	9-12am
Introduction to Building Web Pages (PC)	August 11	9-12am
Introduction to Building Web Pages (Mac)	August 14	9-12am
Internet Tools Overview	August 14	1-4pm
Using Pine Mail	August 15	9-12am
Using Eudora	August 15	1-3pm
SAS - Stage II	Aug 17-Aug 18	1-4pm
Introduction to SAS	Aug 21-Aug 25	9-12am
Introduction to WORD (Mac)	Aug 23-Aug 25	1-4pm
Introduction to WINDOWS	Aug 29-Aug 31	9-12am
Introduction to EXCEL	Aug 29-Aug 31	1-4pm
Introduction to QuattroPro	Aug 29-Aug 31	1-4pm
WORD for WINDOWS - Stage II	Sept 5-Sept 7	9-12am
Introduction to WordPerfect for WINDOWS	Sept 5-Sept 8	1-4pm
WORD (Mac) - Stage II	Sept 7-Sept 8	1-4pm
Introduction to PARADOX	Sept 12-Sept 15	9-12am

#### Video Courses

	<i>Date</i>	<i>Time</i>
Commissioning a Video	August 7	9-12am
Using a Video Camera	August 8	9am-4pm
TV Interview Skills	August 9	9am-4pm
Desktop Video	August 10	9am-4pm
Using a Video Camera	September 5	9am-4pm
Introduction to Interactive Multimedia	September 6	9-12am
Desktop Video	September 7	9am-4pm

### Payment is required to attend all courses

The rate is \$20 per 3-hour session for UQ staff and students and \$60 per 3-hour session for all others.

Type **course** on dingo, UQVAX, or broлга for latest information on courses

### Course Bookings and Payment

To enrol in any course:-  
telephone: 3365 4400,  
email: [help@cc.uq.edu.au](mailto:help@cc.uq.edu.au),  
or come to **Client Services** on  
Level 2 (ground floor),  
Prentice Building, from  
8:30 am to 4:30 pm.

Bookings must be confirmed  
by payment within 3 days, and  
prior to start of course. Payment  
can be made either by a  
Requisition for Interdepartmental  
Services, cash, or personal cheque.

The UQ Price is only available  
to University of Queensland staff  
and students.

Please address all  
correspondence to *Course  
Bookings, Prentice Centre.*

### Dial in Access Quota

Clients using Dial-in Access  
can find out their weekly quota  
(and how much connection  
time they have left for the  
week) by typing "quota" at the  
prompt when they log on.

Connection time is  
accumulated over the preceding  
seven days.

The Dial-in Access service is  
proving so popular, it is necessary  
to enforce the 25 hours/week  
connection time limit to allow all  
clients fairer access to the network.  
Remember, once you have used  
your week's quota, you will only  
be allowed Dial-in Access at off-  
peak times.

## IS YOUR PC SECURE?

**If the information that you store on your PC is confidential or important, you should be concerned about security.**

Microsoft Windows for Workgroups software allows you to 'share' or let others access directories on your PC. As shared directories are offered to ALL machines on your section of the network, this is likely to extend to machines outside your office work area. If you are unsure which machines are on your

subnet, you should not share directories without protection. Always use passwords with shared disks. If you can't think of a good reason for offering a directory for sharing, then don't.

As well as setting a password on the directory, it is possible to set usage restrictions, "Read only" access or "Full"

access. Full access allows others to create, delete, or change files. Sharing a disk with full access can leave the machine vulnerable to the loss of critical files and the invasion of viruses. This may not be intentional, but the result is the same. Full shared access should be used with caution.