#9

TOTAL SOLUTION FOR CATHOLIC EDUCATION COMMISSION

Catholic Education Commission staff using the new network established by WARCC

With the aim of standardising its hardware and simplifying operations, the Catholic Education Commission last year decided to move to a Macintosh environment for its administrative support system.

For several months the Commission examined the marketplace for supplier organisations capable of furnishing the service it desired. "We were looking for an organisation which could provide a total solution but there are very few able to do this," commented Jeff Durkin, the CEC's Co-ordinator of Computer Services.

Contract negotiations with WARCC began in early December and by late January the new system had been installed and was up and running. Customised training courses for approximately twenty CEC staff members were completed in early February and on-site support is continuing.

The package provided by WARCC established a network of computers and laserwriters to support the CEC's head and regional offices. It also includes supply of rental hardware, development and provision of software, installation, training, maintenance, on-site support and follow-up seminars with staff.

Commitment To Excellence

"We have been impressed by WARCC's commitment to excellence in the services it provides and have been able to tap into the professional competence of its staff who have answered our questions and dealt with problems effectively," Jeff said.

Rob van Zanten, Manager of WARCC's Microcomputer Support Division, coordinated the project which also involved the Centre's programming and consulting groups. He stated that the CEC had been looking for an overall service to obtain optimal performance and productivity from its equipment and that WARCC had been able to provide everything it needed.

"An Appletalk network was arranged and all operations were installed. All WARCC's services were combined in the effort to make a clean change-over and avoid the common problem of lost time. Personal contact is important in establishing client confidence in the services we provide," Rob said.
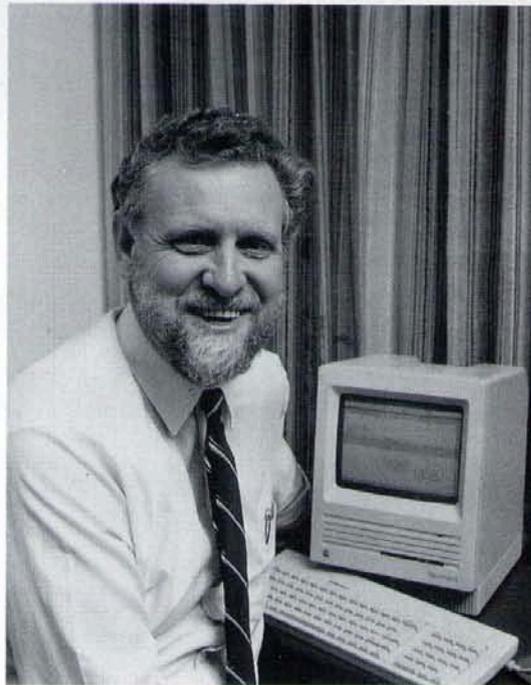
*Terry Woodings,
WARCC's Programming
Services Manager*

National Appointment For WARCC Manager

Terry Woodings, Programming Services Manager at WARCC for the past ten years, has recently been appointed Vice Chairman of the Australian Computer Society's National Software Quality Assurance Group.

"This national appointment is significant for WARCC in that it demonstrates recognition by the Australian Computer Society of our achievements in the area of quality assurance," Terry said.

Terry has been active in the formation of the local ACS Quality Assurance Group which meets monthly to provide a forum for discussions and papers.

Following discussions with ACS President, Alan Underwood, the various state groups were linked to form a national committee with Toni Gous of BHP as Chairman and Terry as Vice Chairman.

"As part of WARCC's policy of providing the best possible software services, we regularly conduct one-day workshops for all applications programming staff at which various techniques and tools are examined," Terry stated.

"For example, we have gathered material on the practical efficiency of different types of user interfaces.

"We have developed a highly successful seminar series combining a number of topics ," he said.

For further information on the workshops or on incorporating software QA into your organisation, Terry can be contacted on telephone 380-2618.

Director's Desk

In a recent study of WARCC's Programming Services Division, it was confirmed that the group possesses a range of skills and expertise not generally available elsewhere in Western Australia.

The group has been built up gradually over the years to the point where it now consists of 13 specialist analyst/programmers and a manager. Between them they have some 130 years of experience in solving a wide range of problems, usually involving unusual or complex tasks or utilising advanced techniques.

Although it has the skills and determination to tackle almost any computing problem that may arise, it has developed a few specialities including Expert Systems, Software Quality Assurance and Hypercard applications for which we are aware of no comparable source of expertise in the state.

The range of problems undertaken by this group is well illustrated by the very diverse applications described in articles which have featured in *STATUS* over the past two years. Indeed, in this issue the newsworthy activities of the group are featured in several articles.

In many ways, this group epitomises WARCC's mission to date, which has been to develop a high degree of professionalism and expertise, mainly to serve the demanding requirements of the University and then to make these capabilities available to the wider community for the benefit of Western Australia as a whole.

Alex Reid
Director

UNIX Systems Support at Department of Medicine

Since November last year WARCC consultant John Gibbins has been involved in the general system support of the SUN 3/160 running a UNIX operating system for the Research Unit in Epidemiology and Preventive Medicine.

The SUN acts as a server for more than 30 IBM PC compatible microcomputers as well as running database and statistical packages.

The Unit, headed by Dr Fiona Stanley, is part of UWA's Department of Medicine. It conducts studies in the areas of perinatal health, cancer and other chronic diseases at the Queen Elizabeth II Medical Centre.

"The Unit had recently purchased an additional 800 Mb disk drive which required all existing disks to be reinitialised and urgently needed sophisticated technical support," John said.

His first task in this part-time assignment was to configure the new disk into the system, including reformatting both the existing drives and the new drive while always maintaining a bootable copy of UNIX on at least one disk.

John then went on to design a system for backing up all disks, streamline existing system administrative procedures and created new ones, redesign the Oracle database to handle larger quantities of data in limited disk space, and modify record linkage programs to improve performance and user interface.

"The work at the University's Department of Medicine here at QE II is ongoing," John said. "At the moment I am tightening general security on the system, debugging problems with printers as well as improving the robustness of the system and making it easier to use."

According to Maxine Walton, a computer programmer at the Unit, the perinatal studies rely heavily on access to a large database held on the SUN system. She also said that the use of the SUN for studies of the trends and causes of cerebral palsy had improved efficiency in producing reports and responding to frequent routine requests for statistical data.

Network Links Libraries
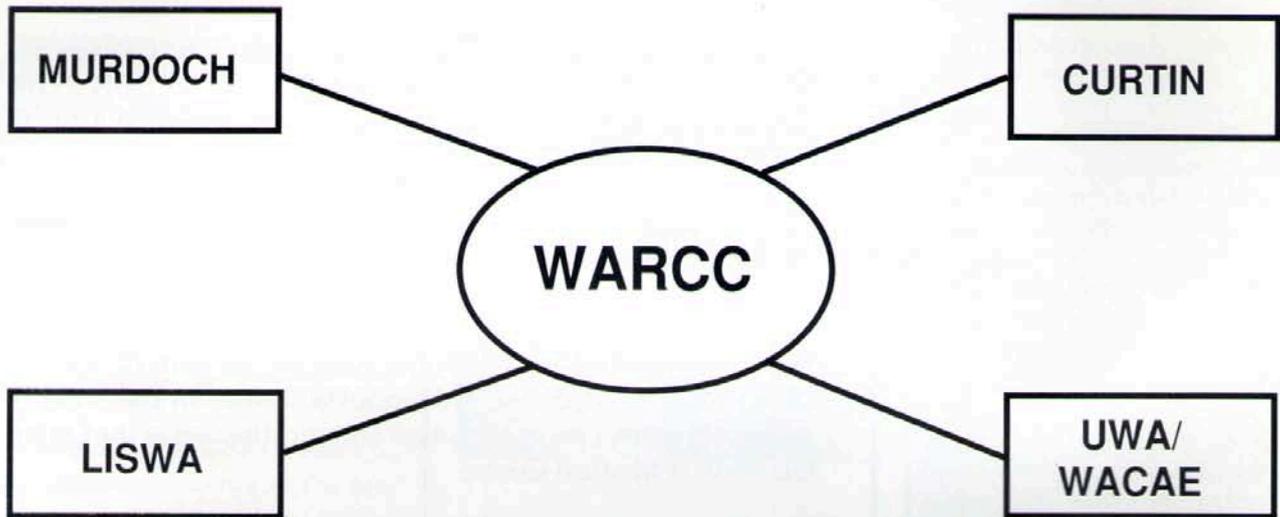
Western Australian libraries are linked through WARCC's network

A pilot project linking the libraries of several tertiary institutions and the Library and Information Service of WA (LISWA), formerly the State Library, has proved beneficial to many library users in the state.

John Conway, Manager of Information Technology at LISWA, helped in establishing the system which was introduced two years ago.

LISWA, the University of WA, Curtin University of Technology, Murdoch University and WA College of Advanced Education (WACAE) are all connected through WARCC's network to the Link Library system.

Data held at the various institutions can be accessed through the Centre which is also responsible for maintenance of communications.

Anne Fraser, Bibliographic Services Librarian at Murdoch University, was enthusiastic about the system, stating "The Link Library network is wonderful. It is very useful indeed and has changed our whole approach."

"For our inter-library loans section the network provides a cheap way of looking up information. It is also available at the reference desk so academics and students who are looking for books can see for themselves whether they are held at LISWA or other tertiary institutions."

She added that the network is particularly useful to institutions holding relatively small collections.

Kathy Deubert, Assistant Librarian at Curtin University of Technology, also commented that the network had proved useful as it provides an alternative source for publications which are heavily used.

To ensure that the system is used efficiently, WARCC's network detects inactivity and automatically logs off the user after one or two minutes to free up the connection for other users.

WARCC Maintenance Staff Always Busy
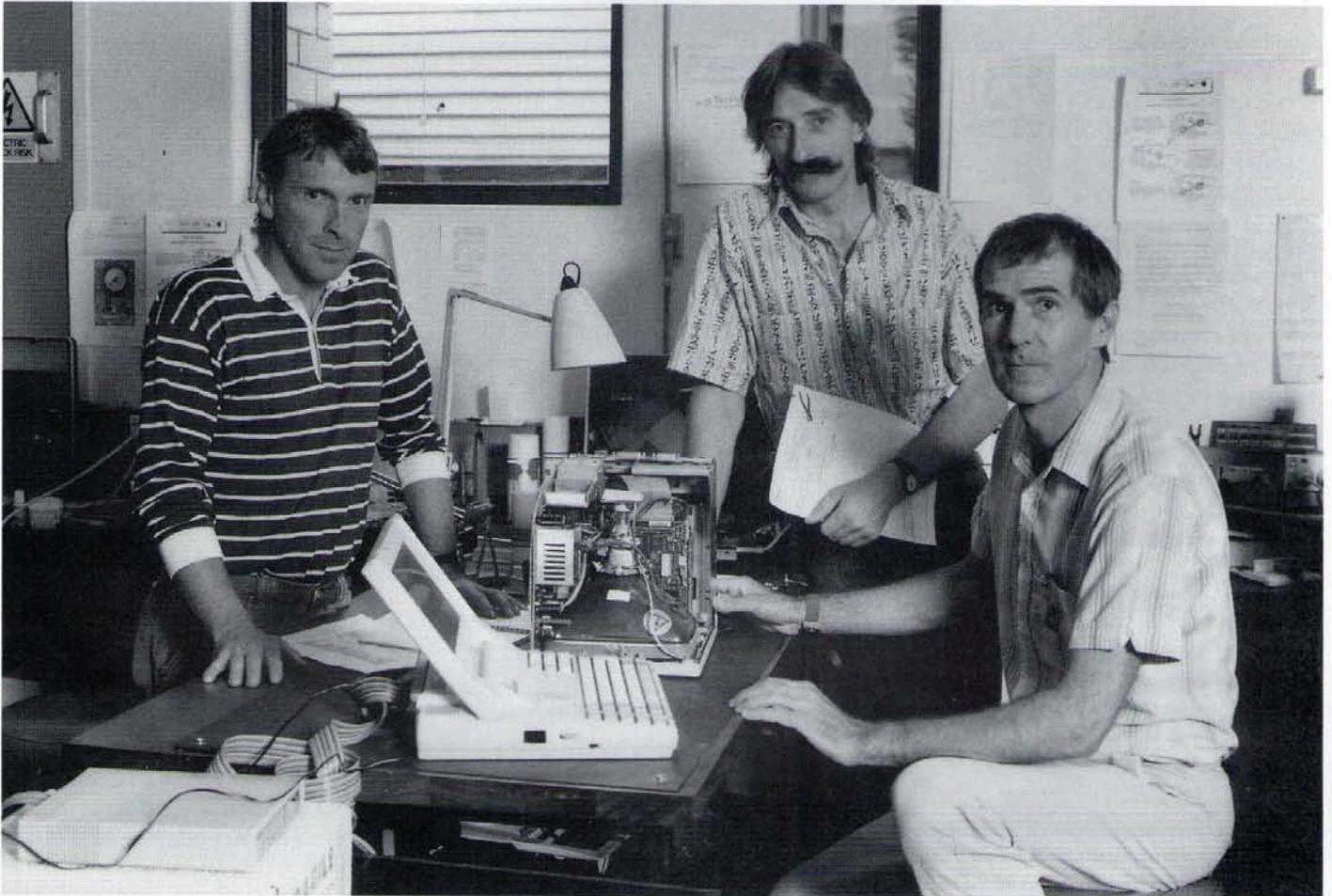
WARCC's maintenance technicians (right to left) John Lumsden, Franz Schindler and Alan Watkins

An average of 30 Macintosh computers and PCs are repaired each week by WARCC's team of three technicians. The service is used extensively by University departments, staff and students but is also used by outside customers.

"We endeavour to solve a problem within 24 hours. Most of our jobs are done on a module repair basis. Nowadays it is usually quicker and cheaper to replace the modules," said John Lumsden, Chief Technician.

He stated that given the Centre's large catchment area, their turnover of repairs is reasonable. John's colleagues, Franz Schindler and Alan Watkins, commented that the nature of their work changes continuously.

"We used to build network communications equipment but there is now less demand for this type of work," said Franz. "Until quite recently we did repairs on a component level but soldering components takes up less and less of our time. Furthermore, circuit diagrams are no longer provided in many cases."

"There is also the cost factor. For example, it may take two to five hours to properly adjust a PC floppy disk drive which can perhaps be replaced more cheaply."

The technicians also deal with problems in the University's Local Area Network (LAN) and the library system. They commented that with the rapid increase in computerisation their services are in constant demand and that their workshop is always busy.

Staff Team Spirit

Macintosh computers had already been in use at the CEC for desktop publishing services for some time. Management was keen to have compatibility and to standardise equipment, output, storage and retrieval methods.

Referring to staff attitudes towards the new system, Michael King, the CEC's Senior Co-ordinator of Management Services commented that the change-over had given back control to individual sections within the organisation.

"During the training sessions they were able to develop a team spirit and can now draw support from colleagues within their group.

"Follow-up after installation of hardware is very important and we have received an excellent response from WARCC in this area. They have provided the software to fit our requirements and also the back-up we needed," he said.

Margaret Haydon, Senior Co-ordinator of Media Services at the CEC appreciates the cost-saving benefits of the system stating that "Like most educational organisations we are very print-oriented. The new system has enabled us to make significant savings and during the past few months we have received more support and advice than during the past several years from commercial companies."

Customised Training

The training component of the package was tailored to the Commission's requirements and covered usage and management of the Macintosh, Hyper-card and the word processing package Microsoft Word.

Training sessions were designed to develop teamwork to assist in problem determination and regular refresher

CEC staff are part of the network and also feel part of the computer resource

seminars for staff were also arranged. In addition, a CEC technical staff member, Ms Kellie Potter, spent a week at WARCC to familiarise herself with the Centre's services, staff, resources and support procedures. Her time at the Centre enhanced her confidence to provide the first line of support on-site.

Easier Monitoring

The Catholic Education Commission was established in 1971 to provide leadership in education for the Catholic community in Western Australia and make policy decisions relating to the direction of Catholic education.

Each year the CEC collects financial data from Western Australia's 150 Catholic schools to calculate the Educational Resource Index (ERI) which determines federal funding levels for the schools.

The CEC currently stores the data in a database on a Hewlett Packard mini-computer and WARCC software consultant, Michael Wheatley, is designing

a replacement for the existing system to run on the Macintosh computer. He believes that flexibility of layout is an important aspect of the project as the data and ERI calculation details tend to vary from year to year.

"The completed system should make it easier for the CEC to monitor the resource requirements of WA's Catholic schools and plan for changes in future funding levels," he commented.

Looking To The Future

Continuity of ongoing support from an organisation which provides computer systems is always critical to the successful use of a system.

Jeff Durkin expects that the CEC will continue to utilise the expertise and commitment to excellence available through WARCC in the future.

"The beauty of WARCC as a system supplier is that it is university-based. This means that its professional staff are involved in problem solving daily."

Cost Effective Solutions for Engineers

WARCC's computing bureau service for engineers is run by Jeremy Bosworth who joined the Centre in late 1989. Jeremy is a professionally qualified engineer with ten years varied experience in civil design in New Zealand, Fiji, the United Kingdom and Australia. He has a strong interest in computer applications to engineering.

In discussions with the bureau's many users such as Davy McKee McDermott, Dawson, Brown and Root, J P Kenny and Seapole Systems, Jeremy has found strong support for the bureau concept as an alternative to in-house hardware and software.

"Consulting engineering companies with intermittent project workloads can utilise this computing facility exactly as and when they need it as an additional resource. Joint ventures formed for specific projects can use the

Jeremy Bosworth, WARCC engineering consultant, has found strong client support for the bureau concept

bureau as their main computing resource," he said.

"In each case the organisation avoids capital expenditure on hardware and software which may become redundant on completion of the project. The result

is therefore a cost effective solution to each company's requirements."

For further information on the bureau's services and the range of available software, Jeremy can be contacted on telephone 380 2597.

Statistics for Police Department

As part of its commitment to the use of graphics in planning the deployment of resources and evaluating performance, the Police Department of WA recently commissioned WARCC to investigate the feasibility of generating summary statistics.

"WARCC was able to supply the statistical expertise and knowledge we needed," said Peter Leitans, the Department's Operations Manager - Computing and Information Management.

He stated that the Department is working towards specific operational goals. "We can demonstrate what we aim to achieve, look at developments so far and apply an appropriate methodology. Each section defines its operational goals and the graphs of actual versus planned performance are matched to quantify their success."

He added that the Department's ultimate objective is to produce a small number of meaningful graphs which would be readily available to senior police to indicate performance and help in planning. In the short term, a selection of graphs and charts was required for the Police Commissioners' Conference held in mid March in Perth.

"Demonstrating measurable corporate goals was a major topic at the conference," Peter said.

WARCC consultant, Anna Ferrante, supported by Sharon Coffey, was assigned the task of preparing graphical reports based on data collected over the past four years.

Examples of data which were examined include demographic data on criminals (age/sex/race); complaints despatch system (response times of police officers by time of day/day of week/date/location/offence type); profile of police officers; location of offences; number of traffic accidents; and reports on firearms.

In addition to investigating the feasibility of producing summary statistics, WARCC also examined the type of statistics that are required and established automatic, routine procedures for their generation.

According to Peter Leitans, the Department intends in the long term to establish regular reporting procedures for management information. "We anticipate using WARCC's statistical expertise again in the future as this work is ongoing and there are always new data which need to be analysed."

WARCC Involved in Modelling Software

Tunde McNabb at work on the SUN

WARCC consultants Tunde McNabb and Paul Taylor are presently involved in a project to design and implement a graphical user interface (GUI) for the SAAM (Simulation, Analysis And Modelling) program.

The project is funded by National Institutes of Health in the USA and is being carried out under the direction of Professor Ray Boston, head of the Computer Science Department at Murdoch University.

Developed as a tool to examine and develop mathematical models, SAAM is used primarily in the modelling of (complex) biological and medical systems, in particular kinetic models. It also gives researchers an analytical approach to what otherwise might be long and drawn out laboratory work.

The design of the interface S^{2}UI (SAAM SUN User Interface) is intended in the first instance for the SUN family of workstations.

"The great advantage offered by a graphical user interface is that every step of activation is directed by the software. Everything the software does is visible and the control of the software operation is evident. The user needs only to select from menu items in order to activate the software," Professor Boston said.

As well as the new developments in the user interface area, WARCC is assisting Professor Boston with maintenance and documentation for the existing versions. This is preparatory work to a major recoding project planned for SAAM.

The development of the S^{2}UI is proceeding according to a prototyping methodology and interface guidelines which Professor Boston anticipates will serve as a model for the conversion of similar command-line driven software. Results computed using SAAM may be shown in textual form or displayed in a variety of graphical formats.

Paul Taylor explained that the graphical formats provide a charting service which allows the high resolution of the SUN to be used to its full potential. In addition, it enables the user to obtain high quality hard copy on a PostScript equipped laser printer.

Professor Boston stated that the new approach of software designed for use on a series of different computers is the equivalent of "open architecture" in hardware. He pointed out that since the late 1970s the processing speed has improved a thousand fold with accompanying cost savings and has also created the opportunity for extensive usage of graphics.

"Our approach is not only to establish a basis for developing the software but also to adapt it to the graphical user interface and serve as a standard for the future. Prototyping the interface sets a new scene for the software," Professor Boston said.

Tunde McNabb added that the software is currently available to the public on WARCC's VAX.

In concluding, Professor Boston commented that the graphical user interface benefits scientific and medical researchers significantly in that it facilitates use of the software and is effective in conveying conclusions. Users are therefore able to concentrate on their research activities without the problem of coping with a software program which is difficult to learn.