

HOW THE WEST WAS ONE: USING VDX TO REDEVELOP COOPERATIVE DOCUMENT DELIVERY SERVICES IN WESTERN AUSTRALIA

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1. COOPERATION and WAGUL (Western Australian Group of University Librarians)¹

Perth, the capital of the state of Western Australia, is allegedly the most isolated capital city in the world. The nearest large Australian city is Adelaide, almost 2,400 kilometres (1,500 miles) away across the arid reaches of the Nullarbor Plain – a journey of some 2½ hours by plane. Perth is as far from Canberra as London is from Cairo, or Stockholm from Baghdad. The cities of South-East Asia are, if anything, slightly closer. Denpasar, on the Indonesian island of Bali, is considerably nearer to Perth than Canberra is.

This isolation has had a significant continuing effect on the cultural and social life of the city – ‘the West Australian Way of Life’ affectionately chronicled by Robert Drewe in his memoir of Perth in the 1950s and 1960s, *The Shark Net*. He contrasts the seductive light and landscape of the West with the austere lives of the ‘pale, citified Easterners with no appreciation of the casual coastal life’.² Something of the same spirit survives today!

The development of higher education institutions in Perth – and their libraries – has also been affected by this isolation. In a city of just over a million people, Perth has no less than five universities: the University of Western Australia, Curtin University of Technology, Edith Cowan University, Murdoch University, and the University of Notre Dame Australia. Between them they have a student population of almost 100,000. Each was established by an act of the Western Australian Parliament, and all except Notre Dame are publicly funded, mainly by the Federal Government in Canberra.

The universities and their libraries vary considerably in their strengths and emphases, and in their mix of teaching and research activities. But they share a common interest in overcoming what the historian Geoffrey Blainey famously called ‘the tyranny of distance’.³ There is a strong focus on distance education – the universities serve a state which is the size of Western Europe – and on internationalisation, with a high proportion of students from South-East Asia.

For the Western Australian university libraries, the emergence of Web-based services has been a huge boon, and they have been adopted with great enthusiasm. But there has always been a strong tradition of cooperative activities, which has provided the platform for a series of successful electronic developments.

The university libraries collaborate formally as WAGUL, the Western Australian Group of University Librarians. The name is more than just an acronym; it is meant to evoke the Wagyl, or Waugal, the Dreamtime being – sometimes described as the Rainbow Serpent – which, in the traditional beliefs of the indigenous Nyungah people, left its tracks in the shape of the land of the Perth region, and especially in the bed of the Swan River.⁴

WAGUL defines its mission in terms of enhancing and expanding access to information by staff and students of the member institutions. It aims to accomplish this through the regular exchange of information, joint activities and key collaborative projects, which will:

- increase the information resources available to library clients;
- provide more cost-effective services;
- share the costs of expensive initiatives; or
- contribute to the internal efficiency of member libraries.

WAGUL's main activities are focused on specific projects and initiatives, determined during an annual planning cycle. These are a mixture of major projects requiring external funding and smaller projects which can be carried out within existing resources. The two current major projects (the WALAP⁵ joint authentication service, and the LIDDAS⁶ document delivery service) have been funded through the Capital Development Pool of the Federal Department of Education, Science and Technology (DEST), to the extent of nearly A\$1.5M. Other recent initiatives have included:

- investigating the extent of overlap in serials collections;
- reviewing cataloguing operations to identify cost efficiencies based on international best practice;
- initiating joint purchasing arrangements for monographs and serials.

Underpinning these projects are two major programmes which have been running continuously for about twenty years: reciprocal borrowing and document delivery. WAGUL's reciprocal borrowing scheme was launched in 1981. It enables staff and students from each university to register as borrowers at the other universities. There is an annual reconciliation process to pay for lost or damaged books, and borrowers have to re-register each year (with 28 February as the common expiry date). Notre Dame is not part of the reciprocal borrowing scheme as a whole, but has reciprocal arrangements with some of the other WAGUL libraries individually.

The reciprocal borrowing scheme is very similar to the recently implemented national borrowing scheme, now known as University Library Australia (ULA). In the last few years, the number of registered borrowers has been around 9,000 - about 9% of the total student population. The level of borrowing has been declining, but still amounts to about 6% of the total loans in the member libraries.

Table 1. WAGUL Reciprocal Borrowing Scheme

	Borrowers Registered	Items Borrowed
1999	9,084	91,287
2000	8,703	86,050
2001	8,846	74,790
2002		

WAGUL's other major continuing programme began in 1984. This was the document delivery and interlending service, which at that time included three universities, the Perth metropolitan health libraries and the State Government's Department of Agriculture. Initially, the service relied on a shared courier to transport materials and requests around the city. The courier also collected

items from the shelves and checked them out as he went from library to library. At the end of the year, there was a reckoning of costs: each institution paid for a share of the courier and the van, and the van's replacement; book loans were free; and photocopies were charged at ten cents per page. The reckoning meant that each library was only charged the net difference between its borrowings and lendings to each of the other institutions.

Over time, the number of transactions increased, especially after Edith Cowan University joined as a late entrant. It became more difficult for the courier to get around to all the libraries in a single day. Costs increased when the University of Western Australia, as the major supplier, was forced to hire casual staff to collect from some of the branch libraries. The effectiveness of the service was heavily dependent on the courier's experience in dealing with a wide variety of library systems and shelving arrangements, and interpreting the information on the request forms. It was hard to maintain the same level of expertise when he was on leave.

In 1996 WAGUL initiated a review of the courier service, with a view to increasing efficiency and reducing delivery times. The major failure of the courier service was discovered to be "waiting time": waiting for requests and items to be collected by the courier, as well as waiting for items to be collected by the requester.

The proposal which emerged from the review was to focus on the possibilities offered by new technological developments. The university libraries had better access to these, but it was hoped that the new approach could also operate effectively for the non-university members.

The recommended approach was to transmit requests by fax, email or Ariel, and to implement Ariel for the delivery of articles, with fax as an alternative. An independent courier service would be used to deliver books, but library staff would collect material from the shelves. The possibility of two separate courier pick-up and delivery routes was also canvassed.

As a result, the cooperative courier service was discontinued in March 1997, to some dismay – people liked the courier and his daily visits to their libraries. The universities developed their own service, while the health libraries (and the UWA Medical Library) developed a separate service based on a commercial courier.

In April 1997 the WAGUL libraries started using Ariel for transmission of request forms and for delivering copies of articles. The standard inter-university courier services were used for the delivery of loan items. It was agreed that requests from WAGUL libraries would receive priority, and that a 24-hour turnaround time on WAGUL requests would be the aim.

In November 1997, a survey of the new service was carried out to see what had been achieved in reducing turnaround times, in comparison with a similar survey in 1994. The results were mixed. In 1997, 81.6% of requests for copies were delivered within three days, compared with 73.8% in 1994. The turnaround time for loans was not as good: in 1994 75.8% of loans had been supplied in three days, but this had dropped to 20.7% in 1997.

At the same time, WAGUL launched another project, this time with the aim of implementing a client-initiated document delivery system between the member institutions. The new system needed to include the following features:

- clients should be able to locate and request material in the libraries' collections using a Web-based virtual union catalogue;
- there should be a direct connection to existing library management systems for client authentication, minimising the need for intervention by library staff;

- management and tracking of requests;
- compliance with copyright requirements.

A working group was set up to begin investigations, looking initially at the URSA software from CPS Systems. But this was quickly overtaken by the national LIDDAS project, following a visit in March 1998 by Neil McLean, the project director. In June 1998 the WAGUL working group recommended participation in LIDDAS, and the university librarians asked their Vice-Chancellors to sign the national LIDDAS agreement drawn up between the Australian Vice-Chancellors' Committee (AVCC) and the software provider Fretwell-Downing Informatics (FDI).

There followed two frustrating years of system specification and project planning, but little in the way of actual implementation. In June 2000 the WAGUL libraries signed a Memorandum of Understanding relating to LIDDAS, and agreed that the VDX software would be jointly acquired and installed, and that the service would be used in accordance with established WAGUL document delivery policies and practices. By the second half of 2001, the technical infrastructure had been established, and the VDX software had been installed and configured for testing.

In August 2002, after extensive testing, VDX went into production as the basis for the WAGUL document delivery service, initially for library staff use only. Early in 2003, Murdoch University became the first institution to make the VDX software available for client use. By mid-2003, three of the WAGUL libraries had activated a gateway between the local VDX system and the national Kinetica Document Delivery service, enabling them to manage most of their requests through VDX.

The transactions between the WAGUL libraries are of great importance to their overall document delivery activity. Around 30% of their total document delivery requests are filled from within the WAGUL group, despite a gradual fall in the WAGUL traffic in recent years. Over 45% of their total document supplying has been within the WAGUL group – until last year, when the proportion fell to 37%. This is thought to be because other Australian participants in the national LIDDAS project, particularly the CAVAL libraries, were able to direct additional requests to WAGUL as part of their implementation process.

Table 2. WAGUL Document Delivery Transactions, 1999-2002

	WAGUL	Total request	Total supply	WAGUL request as %	WAGUL supply as %
1999	13,325	42,946	28,728	31	46
2000	12,713	41,868	27,329	30	46
2001	11,172	36,409	23,118	31	48
2002	9,041	30,664	24,314	29	37

It should be noted that these overall proportions conceal a significant variation within the WAGUL membership. The University of Western Australia Library relies on WAGUL for a much smaller percentage of its requesting and supplying than the other WAGUL libraries do.

Table 3. WAGUL Transactions as a Proportion of Total Document Requesting, 2001

Requesting	WAGUL	Total	WAGUL as %
UWA	3,970	19,956	20
Curtin / Edith Cowan / Murdoch	7,202	16,453	44

Table 4. WAGUL Transactions as a Proportion of Total Document Supplying, 2001

Supplying	WAGUL	Total	WAGUL as %
UWA	3,953	11,786	33
Curtin / Edith Cowan / Murdoch	7,219	11,332	64

2. ORGANISING THE LIDDAS PROJECT

LIDDAS: an Australia-wide project

The WAGUL LIDDAS Project is part of a nationwide project that formally began in December 1997, when the Australian Vice-Chancellors' Committee entered into an agreement with Fretwell-Downing Informatics (FDI) to provide networked interlending and document delivery services for 'not for profit' libraries in Australia and New Zealand. A number of libraries joined the project as 'first phase' participants:

- Australian Catholic University (for the CAVAL CIDER⁷ Project)
- Griffith University
- Macquarie University
- State Library of New South Wales
- University of Southern Queensland
- University of Technology, Sydney
- National Library of Australia
- National Library of New Zealand
- University of Auckland

Following a successful bid for a grant from Capital Development Pool funding from the Department of Education, Science and Training (DEST) to cover hardware and software infrastructure, WAGUL joined the LIDDAS Project as a 'second phase' participant and placed an official order with Fretwell-Downing Informatics (FDI) in mid-2000. In August 2002 the WAGUL libraries were the first in Australia to use VDX to manage all document delivery between the four institutions in a live environment. This rapid progress is due largely to the collaborative effort of the WAGUL libraries.

Although there is a long history of successful cooperative projects between the West Australian tertiary libraries, the LIDDAS project is unique in the extent of collaboration required, as well as in the use of shared infrastructure. It should also be noted that while the libraries work

collaboratively, this is done within a competitive environment between the institutions that are always very zealous in not only protecting but striving to increase their student base. Therefore it was important that we put in place a clear management structure covered by formal agreements.

Agreements

Memorandum of Understanding

Broadly the WAGUL LIDDAS project operates under a Memorandum of Understanding between the four participating institutions. The MOU covers the following areas:

- Management: the system will be centrally maintained and managed by the University of Western Australia Library according to terms and conditions as specified in a Service Level Agreement; Edith Cowan University Library will manage ongoing administrative and financial functions not covered in the Service Level Agreement; and WAGUL is responsible for authorizing any major changes to the system.
- Costs: how costs will be shared.
- Security: patron and transaction data will not be used by another WAGUL institution and each library is responsible for compliance with copyright laws.
- Review: the agreement is to be reviewed on an annual basis.

Service Level Agreement

Early in the project it was realised that considerable cost savings could be realised by using a shared server. The server is located at the University of Western Australia and maintained by UWA Library IT staff. The VDX software is set up in a bureau mode which allows each site to configure the software to meet their particular requirements. The set-up at each library varies. Murdoch and Curtin have most of their activity on one campus, while Edith Cowan University is a multi-campus institution and the University of Western Australia has many branch libraries. These differences result in each institution's VDX configurations being quite different.

Because of the shared system a Service Level Agreement was put in place that describes certain tasks and responsibilities of UWA Library IT support as well as the obligations of each library. UWA Library IT tasks and responsibilities include:

- Install, upgrade and maintain server hardware, UPS and network connections.
- Install, upgrade and maintain server operating system(s) and 'C' compiler(s).
- Configure and maintain network access to server(s).
- Install, upgrade, maintain and tune Oracle RDBMS software.
- Install, upgrade and maintain Web server, Object Request Broker and servlet engine (if required) software.
- Design and implement backup and restore procedures for the operating system(s).
- Install, upgrade and maintain VDX software.
- Design and implement backup and restore procedures for Oracle and VDX.
- Set up, maintain and monitor access security for server(s) (SQLNet, Z39.50, HTTP, ODBC, 3M, telnet, etc)
- Set up and maintain Z39.50 server software and settings.
- Set up and maintain PC Anywhere software and access.
- Set up, maintain and expand Z39.50 client software and connections.
- Design, implement and maintain redundancy and contingency measures.
- Carry out routine backup procedures.

- Monitor server and network operation.
- Provide a central service for system problem reporting and resolution including reporting of problems to Proteus/Fretwell Downing.
- Management and training of UWA Library IT staff in the above tasks.
- Liaison with other library staff.
- Load patron details files to VDX on a daily basis or as agreed.
- Install, upgrade and maintain hardware, operating systems, Oracle database and VDX software and other web and applications software.

The SLA further covers such things as:

- ‘Up’ time – the servers and network connections will operate 24 hours per day, seven days per week, with 99% availability.
- Support contacts – a phone line and email address will be available for reporting problems both during standard office hours and after hours for serious problems
- Confidentiality – information on patrons and transactions remains the exclusive use of the individual libraries.
- Data retention – data will be maintained for 5 years on the system
- Problem resolution – all problems will be handled firstly by the LIDDAS Operations Group and referred to WAGUL if a problem cannot be resolved.
- Costs – setting out how hardware and staff costs will be determined and shared.

The Service Level Agreement also specifies the responsibilities of the individual WAGUL libraries including:

- Each library is responsible for their part of VDX from ‘bureau manager’ downwards.
- This includes the configuration and settings for their library and testing that it all works. To assist with this each library has access to a Test and a Production VDX system.
- Each library is responsible for the installation of client software at their sites and the provision of access to the central servers for their users.
- The producing of reports from VDX is each Library’s responsibility, although the central IT support produces a monthly report showing total transactions between the WAGUL libraries.
- Training of their staff and clients.
- In addition each library is responsible for the provision of first level support for their users. If they are unable to resolve the problem then it is passed to the UWA Library IT help desk.

Management Structure

We adopted a fairly typical project management structure with a steering committee, a project team and a sub-group that handled more of the operational level tasks.

Steering Committee

The university librarians, meeting formally as WAGUL, act as the LIDDAS Project Steering Committee. WAGUL was responsible for drafting the original business case, submitting a proposal for Federal Government funding, approving the final drafts of the various agreements and approving changes to the budget. As part of its regular quarterly meetings WAGUL receives reports from, and sometimes meets with, the Project Team.

Project Team

A Project Team was formed in the early stages of the project. The team is made up of representatives from each institution and UWA Library IT support, and includes a mix of management level staff as well operational staff. The Project Team is responsible for drafting the various agreements, establishing a project plan, ensuring that the project is kept on schedule, organising training, managing the budget, information dissemination, problem-solving, and participating in national forums such as the national users' group and teleconferences. The Project Team usually meets at least monthly, but more frequently during certain crucial phases of the project.

Implementation Group

When we reached the phase of the project that required more 'hands-on' work, we established a sub-group of the Project Team which became known as the Implementation Group. This group, which consists of operational staff, meets at least weekly during the crucial periods such as when configuring the software. The Implementation Group is a key factor in the success of the project by sharing expertise and jointly solving problems. It would not have been possible to progress as quickly without this group.

LIDDAS Operations Group

Once the project is completed, a group responsible for the ongoing management of the LIDDAS system will be formed. This group will be known as the LIDDAS Operations Group (LIDOPS) and will consist of representatives from each institution as well as UWA Library IT support. The Group will be responsible for advising WAGUL on such matters as:

- Service level agreements between WAGUL LIDDAS participants and UWA Library IT support;
- FDI service issues;
- Expenditure;
- Software development and support;
- Training issues;
- Participation in national forums such as the VDX Users' Group in Australia and New Zealand.

In hindsight, the management of the project may appear to have been straightforward. But, looking back over the reams of memos, drafts of agreements, minutes of meetings, the lists of staff who have come and gone over the four or more years of the project, one is reminded of the enormous work that has gone into this project and the dedication of a group of key staff that has resulted in such a successful outcome.

3. BENEFITS AND OUTCOMES

There is no doubt that a large cooperative project such as the WAGUL LIDDAS project requires a large input of resources to achieve its objectives. It has been a significant investment to bring together all the different levels of staff required from our four universities for the various groups, committees and teams over a very long period of time. So why bother?

The expected benefits were defined as the flow-on from the previous cooperative document delivery services, and were well defined and understood as outlined in section 1 above. Although WAGUL has a history of successful cooperative arrangements, the LIDDAS Project was different. This project resulted in numbers of groups of people coming together over a long period of time, and actually doing the work together. The Implementation Team helped each other, supported each other, and in a few instances, different members of the Team accessed other libraries' systems and worked on them, usually in a troubleshooting capacity. Institutional boundaries were blurred and crossed repeatedly while the work was in progress, without any loss of integrity and identity by any of the participants.

Consequently, as well as the specific expected benefits associated with the LIDDAS project itself, the cooperative experience has had other benefits, which have flowed on to other projects and further cooperation between some or all of our libraries. The experience has resulted in some changes in the way our libraries interact, and in some cases changes in the way we approach future considerations of cooperation between ourselves and other Institutions.

The experience has also taught us the skills needed and an understanding of what is required for creating successful cooperative working environments. It is impossible to measure these outcomes, but they may in fact be of more importance than the expected benefits of the project itself.

The Model

It is worth explaining a little more about the model that we adopted to manage our VDX system, as this was largely the driver behind the methods of working that we evolved. Each institution is a Bureau on the VDX system, which means that most of the settings and configuration that apply to the patrons, the requests, the locations and the searching are controlled by each library, and not visible to the others. There are some system wide settings which require agreement from everyone, and are controlled by the IT staff at UWA, but most configuration can be decided and set up at the Bureau level.

These settings determine how the libraries and our clients interact, so settings cannot be made in isolation. It is critical to have an understanding of the protocol that the system uses, to understand how the various states are designed to be implemented. It is also critical to understand how a decision about a configuration setting will impact on partner libraries. So it is only possible to use the system effectively if decisions are made cooperatively.

This has now become apparent in the wider world, where we are exchanging requests with other VDX systems, and other ISO-compliant non-VDX systems. Our ability to make the most effective use of the system depends on the way that other sites configure their systems. From this point of view, the whole world of document delivery interaction needs to be a huge cooperative with common understanding.

None of us understood this at the beginning of the project. So although we had a traditional management structure, we really didn't know what would be required to make it all happen.

How the Implementation Team Came About

The Project Team played a very important part in keeping the communication channels open, timelines in place, and decision making on track. The Project Team organised the first set of training, and many of the members of that team attended the training. This was our first exposure

to the software itself, and the beginnings of our attempt to understand what would be required of us, collectively and individually, to reach a point where the project objectives could be achieved with a 'live' operational system.

After the intensive training, many of us who had attended decided that it would be useful to continue meeting, to begin and carry out the actual configuration work itself. This developed into the Implementation Team, which met weekly for many months and years, to work individually on our own Bureaus, but working together on the settings.

Initially, these were completely informal meetings, which were of huge benefit for the sharing of ideas and information, a place to ask questions and discuss problems and issues. Sometimes we worked on a whiteboard, but most of the time we were configuring and testing on the system itself. It was often the only time of the week when we did any work on the system, as we all had other busy parts to our jobs. The weekly meeting gave us time out to focus on VDX.

However, as time went on, the Implementation Team needed to report to the Project Team, and so it was established as a sub-group. This meant that there needed to be a spokesperson, but it was stressed that this was to be a 'hands on' working group, not a management group. This group developed the working knowledge and skills in the software and its configuration, so it would often make recommendations to the Project Team, and the Project Team would occasionally ask for advice. Many of the same people served on both Teams. Most of the time the Implementation Team kept notes of the meetings, to help us track our work, but there were no formal minutes or written reports.

What the Implementation Team Achieved

Initially, the Implementation Team was mainly working on discovery – attempting to learn and understand what the system could do, and what this meant in terms of our own work practices. This continued through updates of the system, and at each stage we needed to do more training and more experimenting.

Eventually we had to reach a decision that the software delivered what we required in terms of functionality to achieve the project's objectives. We had to plan our timelines and milestones to achieve them, taking into account all the restrictions imposed by conditions at each site (for example, one of our libraries was in the middle of implementing a new ILMS).

It was at this point we became really focussed, as we had to be really clear on what we were trying to achieve, collectively and individually. We had easily been distracted with trying to understand and learn the whole system, which was unproductive in terms of our objectives. So we started to work on just what we needed. This also required us to look at and develop the models of document delivery which would be implemented with the new system within each library, and in this process the experience and insight of other people on the Implementation Team was invaluable.

During this part of the process, we each configured our Bureau, but we shared all our knowledge and information. We shared the documentation we produced, particularly procedural documentation for our operational staff. We shared expertise on customising the web interface. We met at different locations, sharing the use of facilities, and training rooms, and providing refreshments for each other. This sharing was not documented, and there was no balance sheet kept. Each member of the team provided what was required, according to their ability to do so, or the identified need.

We began exchanging requests between ourselves, initially on the Test system, and then on the Production system. As further updates arrived, we identified that there were some parts of the implementation that needed to be made collectively, as it affected the whole system, and some that could take place at some sites only. This served to emphasise that although we had worked so closely together to achieve our Project objectives, we were still discrete and different institutions with our own institutional goals and timelines.

However even as we began to work more independently, the Team that had been forged did not disband. Although we no longer meet regularly unless there is a specific requirement or particular work required on the system, we stay in close contact and still share knowledge and information. This was well illustrated when one team member left her position, and was replaced by someone who had never seen VDX. This person was then supported in her learning process by the other members of the team, as they had far more knowledge than anyone else at her home library, even of the details of how and why their Bureau had been configured. This was invaluable, and forms a potential cooperative model for technical support of complex systems requiring high level of technical expertise.

What Made It Work?

Senior management support

This project was put in place and supported throughout by the senior management of the four libraries involved. Through WAGUL, the project was created and given a life. At all stages the members of WAGUL were kept informed of progress and implications for the various individual members of WAGUL. Senior management were then able to allocate resources as necessary, and make decisions concerning the spending of project funds. While the length of this project created frustration among participants at all levels, WAGUL members stayed committed to the outcomes throughout.

Independent funding

Having independent funding for this project made many decisions easier. It is much easier to decide how to spend the money when it comes from someone else, and not from internal budgets. So while this is not a necessary requirement for successful cooperation, it has certainly helped in this project.

Good will and open minds

The staff involved at every level approached this project with good will. They generally wanted to achieve a successful outcome for the whole group, not just their own institution. This has been a critical factor. It has required the following attributes from the participants:

- **Commitment.**
This means working towards the best outcome for the project, not necessarily just for one's own institution.
- **Tolerance and patience**
On some occasions, team members had to be prepared to accept a less-than-satisfactory temporary outcome in the belief that there would be a benefit for the greater good further along.
- **Flexibility**
Sometimes it was necessary to accept changes or delays in scheduling (both system and staffing), to allow for local factors not common to all participants, even when it caused overall delays.
- **Willingness to share without an expectation of direct recompense**

This included time, knowledge, experience, facilities, equipment and even coffee and muffins!

- **Understanding**
The ability and willingness to understand and appreciate the culture and needs of the other institutions was essential.
- **Trust**
A representative of the Gartner Group at the Educause Conference ⁸ in 2001 said that this was the primary requirement in working collaboratively, between different sections of the same organisation or between different organisations. Our experience would support that view. Without a mutual respect and trust between people who have to work closely together, but who do not have organisational ties to bind them into a team, the process is likely to fail.

The Benefits

All the staff who have worked together so closely on the Implementation Team have learned new skills. The successful achievement of the objectives to date has been important, as it has proven the system and also that a cooperative approach can have significant benefits. While the various team members have very different personalities, different skill levels, different backgrounds, and occupy positions at different levels, these differences were used as an advantage rather than an obstacle because of the genuine desire to ensure that each institution reached its own goals. Some of the benefits from working the way we did are:

- **Pooling expertise**
Different team members had a different understanding of the system, of IT in general and of document delivery procedures and practices. This was invaluable to the team. Some members have many years' experience in document delivery areas, and could interpret the system in terms of workflows and procedures. Other team members have IT backgrounds, and could understand more easily what the system was designed to do. So when we were discussing problems and issues, we had a wide range of expertise and experience to draw upon.
- **Joint goals and milestones**
There were some goals and milestones that were common, particularly before the implementation of the 'live' system. The first major common goal was for us to replace our previous system of requesting from each other with the VDX system. We each had to have completed the same work on our respective Bureaus to reach this goal. This forced us to be in step with each other, and the requirement to reach a common point together was important in driving some work faster than would have been achieved otherwise. And because we were all working on the same things at the same time, we could support each other.
- **Keeping each other going**
This project was very drawn out, over a number of years. It was very difficult for all participants to keep up their enthusiasm and commitment to the project. There were times when every participant became disillusioned, and it was their team colleagues that kept them going and helped them refocus their energy. The determination not to let down other team members and to prove we could do it was a significant contributing factor in the successful outcome.
- **Joint problem solving**
We met regularly in person during much of the project. This meant that we could discuss and take action on issues of concern to particular members of the team, even if it was an issue only relevant to one library. This extended our overall

understanding of the system, and our individual implementations. Often experience at another institution could help resolve the issue, but if not, the team as a whole undertook to investigate the resolution. This was a very powerful strategy, and was of benefit to the whole project.

- **Effect on document delivery practices**

The interaction of document delivery requesting and supplying requires a common set of practices. Using a protocol based system helps this process, but is not in itself enough. It is still necessary to make sure that staff procedures and workflow are commonly understood and implemented. This was simplified significantly as the key document delivery practitioner from each institution was part of the team. This meant that the translation from the workplace into the system was direct, and also the reverse. It also meant that the personal relationships that had been built made further contact about problems with requests much easier.

- **Flow on to other cooperative projects and general cooperation**

The staff closely involved with the project have learned that the four libraries can cooperate closely, and still retain their individual goals and identities. The common fear that stronger (older, richer, bigger) institutions might overrule smaller, poorer colleagues was proven invalid.

The team was not interested in how important an institution was, but what each individual could contribute. It was very clear to the team that the objectives of the whole project could only be achieved if everyone could achieve their own objectives. The traditional comment that 'A team is only as strong as its weakest member' was very clearly demonstrated, and the team worked together to ensure the common good.

The flow-on is that other cooperative projects have been undertaken, and it has been much simpler to initiate them, even if their models have been different. It is now more common to look to the other WAGUL partner libraries for cooperative arrangements when we need help with a project. It has also been the experience for at least some of us that we consider other cooperative groupings enthusiastically, as we have much greater understanding of the benefits, both tangible and intangible, from being involved.

Outcomes

At the time of writing this paper (September 2003), we have achieved the following:

- All our libraries are exchanging requests between each other using the VDX system.
- All the libraries supply documents to each other through VDX to the document store.
- Some of the libraries are using VDX to exchange requests with the Kinetica Document Delivery gateway, which also uses VDX.
- Some of the libraries are using VDX to request directly from the CISTI system.
- One of the libraries has implemented client requesting and tracking requests using VDX, with the others to follow as soon as possible. This includes requesting from document delivery sources, and also requesting material from its own collection for off-campus students. Both these classes of clients access documents directly from the VDX Document Store.

- One of the libraries has tested the possibility of using another vendor's portal searching product in front of VDX, and using formatted emails to pass requests directly from that portal into VDX.

4. CONCLUSION

The WAGUL libraries were the first LIDDAS participants to implement the VDX software successfully in a production setting. This took a great deal of hard work and persistence, particularly once the software had been installed and made available for configuration and testing. The then-new production system was demonstrated to other LIDDAS participants at the national LIDDAS Management and Development Group meeting held in Perth in August 2002. This helped to galvanise the other participants, particularly the CAVAL consortium, into making the move from a test environment to a production one. It also initiated the era of ISO-ILL compliant requesting in Australia.

WAGUL's ability to reach this point was the result of a combination of various factors. But crucial among these was the high level of cooperation and teamwork which characterised the project. This went beyond the formal managerial and administrative structures, and embodied a real commonality of purpose and approach which was applied in a sustained way over several years to the configuration and testing of the system.

Several of the initial objectives of the WAGUL project have now been achieved, while others are still in the process of being tackled. But the WAGUL libraries now have a firm platform for the continual reengineering of their document delivery processes and services, which will continue to be built on over the short- to medium-term. The completion of the national LIDDAS project is only the beginning of a new journey!

¹ The assistance of Margaret Jones, University Librarian, Murdoch University, in preparing this section is gratefully acknowledged.

² Drewe, Robert. *The shark net* (Ringwood, Vic.: Viking, 2000), p. 313.

³ Blainey, Geoffrey. *The tyranny of distance: how distance shaped Australia's history*. Rev. ed. (Melbourne: Macmillan, 1982).

⁴ Corbett, Chantelle. "The Wagyl", in: *Those who remain will always remember*, ed. Anne Brewster, Angeline O'Neill and Rosemary van den Berg (Fremantle, WA: Fremantle Arts Centre Press, 2000), pp. 38-39.

⁵ WALAP: Western Australian Libraries Authentication Project.

⁶ LIDDAS: Local Interlending and Document Delivery Administration System.

⁷ CAVAL: Cooperative Action by Victorian Academic Libraries; CIDER: CAVAL Information Delivery and Electronic Requesting.

⁸ EDUCAUSE in Australasia: the power of 3 (20-23 May, 2001 : Surfers Paradise Marriott Hotel).