Linking up Australia and New Zealand: Trans-Tasman collaboration and the evolving resource sharing ecosystem

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Abstract:

Trans Tasman Interlending, a service designed to facilitate resource-sharing between libraries in Australia and New Zealand, was launched in 2006. The service, brokered by the national libraries of Australia and New Zealand, recognised the close cultural ties and long history of national cooperation between the two countries and enabled libraries on both sides of the Tasman to seamlessly request from and supply to one another despite the ocean between them. The service was unique; as it was the first time two national Interloan utilities had been linked. The success of the service was founded on trust and strong collaboration, advancing interoperability between systems via the trans-Tasman gateway on VDX, and leveraged the centralised billing arrangements in both national services. A decade later, however, the technology and infrastructure underpinning resource-sharing services in both countries is ageing, interlibrary lending is decreasing, and a change in technology platform unexpectedly terminated interoperability between the systems. As a result, the sustainability of the agreement was brought into question.

This paper explores the evolving resource sharing environment in Australia and New Zealand, in particular the fragmentation of supply options, the shift in technology options, the emergence of new alliances and relationships clustered around vendor-based aggregations, and the increasing globalised nature of resource supply and demand. It reflects on the role of national services as regional hubs for resource sharing and interoperability, and what this means for ongoing regional collaboration in a globalised resource-sharing ecosystem.

Keywords: Australia, New Zealand, Trans-Tasman, Regional collaboration, Resource Sharing.
To many outsiders, there is no discernible difference between Australians and New Zealanders. Their national flags are very similar and most cannot distinguish between the two accents although any antipodean can clearly identify which is which. Australia and New Zealand are neighbours at the bottom of the world separated by the Tasman Sea, fondly referred to as “the ditch”. However, there are significant rivalries and points of departure between the two countries.

Sporting competitions are hotly contested particularly in rugby and cricket. Even the ownership of the pavlova, a meringue dessert served with cream and fruit is a long-standing matter of dispute between the two countries. Many jokes are made in one country at the expense of the other. In the Australia/New Zealand relationship, New Zealand is very much the younger sibling being smaller geographically and by population.

However, despite this rivalry there is also a strong spirit of cooperation between the two countries. This was born out of the Gallipoli campaign during World War 1. The ANZACs (Australian New Zealand Army Corps) fought together and were particularly noted for their bravery, ingenuity, good humour and a general disregard for the British class system (Manne, 2007). From this combat, it has been said that New Zealand and Australia defined themselves as nations and the ANZAC spirit was born ensuring an ongoing bond between the two countries.

**Australian library environment and community**

Australia’s population of 24.4 million people is spread across eight states and territories. The population is dispersed and while most people live in capital cities, a large proportion of the population lives in regional and remote areas. Libraries and document delivery services are vital to serve the informational, educational, and recreational needs of people in areas across the country.

Libraries Australia is a resource sharing service managed by the National Library of Australia for Australian libraries and their users. Its key missions are to support the workflows of Australian libraries and provide data to underpin national collaborative services such as Trove - Australia’s national resource discovery service. The heart of Libraries Australia is the Australian National Bibliographic Database (ANBD), which records the location details of over 52 million items held in Australian academic, research, national, state, public and special libraries. It contains over 30 million bibliographic records from a number of sources including national cataloguing agency records from Australia and overseas and original cataloguing contributed by Australian libraries. These bibliographic records are supplemented by location information supplied by Australian libraries (National Library of Australia, 2015).

Libraries Australia Document Delivery (LADD) is part of a suite of services offered by Libraries Australia. LADD is available to members as part of their membership subscription at no additional cost. LADD uses VDX software, hosted by OCLC, to provide functionality and services that facilitate the document delivery activities of member libraries. LADD connects and interoperates with other systems including two in-house systems: Libraries Australia Administration and Libraries Australia Search. These systems connect to search the ANBD and to support the enhanced (or direct) requesting function provided in the Libraries Australia Search interface.
Australian libraries use the Australian Interlibrary Resource Sharing (ILRS) Code, which sets out standard requesting costs. Australia has no standard charge for international supply and has no obligation to charge under the ILRS code, but many libraries generally do charge. Libraries Australia also supports the LADD Payments Services that manages the financial transactions between supplying and requesting libraries. LADD supports hundreds of libraries that use their own ILL system to interoperate with the national system using ISO-ILL, the ISO 10161 Interlibrary Loan Protocol (ISO 10161). In 2016, 982 organisations participated in LADD (752 Australian libraries and 230 New Zealand libraries).

New Zealand library environment and community

New Zealand’s small size (a population of 4.6 million) and position at the bottom of the globe, has often had benefit. New Zealanders have a ‘can do’ attitude and the ability to innovate and adopt new ideas on a national scale. New Zealand was the first country to develop a national union catalogue, initiated when the Library Association of New Zealand at its ninth conference in 1937 adopted a remit that libraries should be invited to cooperate in a scheme of inter-library loans. Wartime restriction of book imports made the interloan service even more significant.

Work on a National Union Catalogue also began about this time and a handbook on interloan procedures was published by the national library association in 1944. The passing of the National Library Act in 1965, meant the handling of interloans was centralised at the National Library on a card based National Union Catalogue before moving online in 1989. Te Puna Interloan, an interactive national interloan management service using Fretwell-Downing’s VDX software was introduced in 1999.

Today Te Puna Services is a collection of online tools and services created with the help of New Zealand librarians to support daily tasks of searching, cataloguing, sharing resources, and managing collections. Both bibliographic and interloan services are offered on hosted managed services through OCLC and the National Union Catalogue is a view of New Zealand holdings on WorldCat.

Over 90% of New Zealand libraries are Te Puna members including a range of sectors: universities, public government, health, law, education, other special libraries and the National Library. 94% of these members use Te Puna Interloan or have ISO interoperability with Te Puna Interloan. All use the VDX platform, and DocStore (a function to attach, send and receive electronic documents) provision for document delivery.

93% of Te Puna Interloan members use the Interloan Billing Service. A separate government department, Inland Revenue, provides the financial transaction processing for this centralised billing as a shared service initiative between government departments. Whilst there is a recommended charge of $14.00 (NZD) per interloan transaction, members are free to set their own charges. Many have established reciprocal arrangements.

Day to day management of the service is handled by one Te Puna Specialist based in the National Library. Queries needing technical knowledge are pushed through to the OCLC Service Desk in Melbourne, Australia. The Te Puna Specialist also manages IBS queries, training, service development and the Directory of New Zealand Libraries.
The Trans-Tasman Agreement - a model of collaboration and communication

Independently, both national libraries began investigating VDX software in 1997 and subsequently implemented the software for their national online systems, New Zealand in June 1999 with Australia following in September. At this point, there were few systems built on the ISO-ILL Protocol in the market or that had been used to provide a national utility. Whilst the software was maintained in-house by each library, implemented and customised separately, the opportunity to develop and innovate allowed both libraries to share and learn from successes and failures.

The VDX Users Group of Australia and New Zealand (VUGANZ) was formed in 2001. The Users Group was a mechanism for members to share information with each other but also to manage an enhancement process through to OCLC for items of concern to the region.

The Australian environment had a variety of systems operating and a number of Australian libraries also purchased the VDX software to manage their ILL. In 2003, two consortia that were independently using VDX began interoperating with the national system via the ISO-ILL protocol. This opened up the opportunity for the national New Zealand VDX system to begin interoperability with Australian VDX system and in 2006, the national libraries of Australia and New Zealand brokered a partnership to develop the Trans Tasman Interlending service.

Trans Tasman Interlending was designed to facilitate resource sharing between libraries in Australia and New Zealand. The service recognised the close cultural ties and long history of national cooperation between the two countries and enabled libraries on both sides of the Tasman to seamlessly request from and supply to one another despite the ocean between them. The service was unique; as it was the first time two national Interloan utilities had been linked.

System experts in both countries worked closely together to solve issues such as synchronisation of locations, suspension information, and billing data exchange. Upgrades required a great deal of planning and testing to ensure a successful transition for both systems. However, the flexibility remained for local customisation to respond to local needs.

The success of the service was founded on trust and strong collaboration, advancing interoperability between systems via the Trans-Tasman gateway on VDX, and leveraged the centralised billing arrangements in both national services.

Overtime, VDX and the Trans-Tasman gateway became a very solid, dependable system, with technicians from the two national libraries cooperating well to ensure the service ran smoothly. In the ANZAC tradition, the two national services continued to collaborate and communicate to ensure that the Trans-Tasman partnership would flourish.

The jewels in the crown

Two aspects of the Trans-Tasman partnership that both national libraries and members value are the integrated billing service, and the benefits of national scale.

Integrated billing service

The interloan billing service allows for streamlined billing for national transactions and the transactions between the two countries, in the currency of each country. Again, there has
been the flexibility for each country to manage this in slightly different ways. In New Zealand, libraries operate a netting off system where a library’s nominated bank account is either directly debited or credited each month. Australian libraries have a bimonthly netted off invoice to pay. To fit in with the Australian two monthly system, the billing between each country is handled every second month with each national library paying a consolidated total to the other which is then apportioned to the individual libraries through each country’s billing system. The National Library of New Zealand supplies the data for both sides of the Trans-Tasman interactions to the National Library of Australia, another example of the degree of cooperation and trust existing between the two services. Integrated billing is now a mature system that runs very smoothly.

National scale

It has been noted, “countries where a national body such as a national library supports resource sharing, it flourishes” (Goldner and Birch 2012, p.7). Both the Libraries Australia and Te Puna services offer training and support to their members using the interloan software and strengthen best practice. Because of the long history of resource sharing on a national scale, interloan librarians generally offer a professional, cooperative, high level of service.

National bibliographies, and the summary holdings information contained within, have been the foundation of both the Libraries Australia and Te Puna services and the search target for the national interloan platforms. Other services developed and managed by the national libraries such as national directories of libraries - the Australian Libraries Gateway (ALG) and Interlibrary Library Resource Sharing (ILRS) Directory in Australia, and the Directory of New Zealand Libraries in New Zealand - support resource sharing services and provide vital infrastructure for national and regional collaboration.

The respective national library associations, Australian Library and Information Association (ALIA) and the Library and Information Association of New Zealand Aotearoa (LIANZA) provide a foundation of support and work closely with the national libraries sharing some of the administration for national resource sharing activities. This support strengthens good practice and advocacy at a national scale.

The evolving resource sharing ecosystem

As observed from Australia and New Zealand, regional resource sharing is affected by the evolving global resource sharing market characterised by: ageing systems, system and platform changes, the rise of the cloud, fragmentation of document supply choices, the rise of ‘e’, large-scale digitisation, government policies, and reduced players in the resource sharing system marketplace.

- **Ageing systems** - both Libraries Australia and Te Puna are using VDX which is an end-of-life product and has not been enhanced for some years, although VDX is still being supported (and hosted for both services) by OCLC. Stagnation of the VDX product platform has proved restrictive for member libraries who want to improve their interloan service as they are unable to take advantage of other developments in interloan that would provide value e.g. RapidILL, Occam’s Reader, integration of circulation systems. These libraries are actively exploring other options which could affect the viability of the national resource sharing utilities.
- **Technology, system and platform changes** - the impact of system and platform changes is evidenced in the experience of Te Puna’s change in service delivery platform and the flow-on effects on both national resource sharing services (outlined in the case study below). Furthermore, changes at a more local level, when member libraries within the Libraries Australia service migrate to/from systems that interoperate with the LADD gateway, pose a number of resourcing and technical challenges.

In Australia, Alma ILL has been adopted primarily by academic libraries seeking to integrate their interloan system with their library management system. Libraries Australia has invested significantly to facilitate interoperability testing between ISO-ILL systems to ensure that Libraries Australia members are able to interact with the national database and the LADD gateway, and take advantage of the integrated billing service. Ongoing system alignment and interoperability is a process that requires regular maintenance and resources.

- **The rise of the cloud** - gives libraries a new range of options for data management and resource sharing. Libraries can cluster together in new affiliations, connected to each other through their choice of library system. Major library system vendors now provide cloud based integrated library management services and consortia-based ‘community catalogues’ that facilitate unlimited access and re-use of bibliographic, authority, and holdings data for the system user group, sometimes crossing geographic borders. Aggregations of data are now provided by the system vendor, and they integrate seamlessly with local workflows and system functionality. Libraries can search, load, re-use, modify, and request data and resources from within their vendor-based system community that often extends beyond national borders. The library system ‘community catalogues’ and system functions support resource sharing for print and e-resources. Libraries operating within their local system affiliations typically request and supply resources from within their system community hub, and only request outside of their system community as a last resort.

- **Fragmentation of supply options and increased document supply choices** - including commercial and vendor-centred options, consortial arrangements, digitisation and acquisition on demand, mean that libraries are now able to diversify their interloan request and supply workflows.

International document delivery vendors such as Subito are often preferred as first choice for supply of copies. New Zealand and Australia’s geographic position (on the other side of the world) means that requests are actioned overnight and available first thing the next morning. The price can also be cheaper than through the national systems.

Many library sectors (particularly university libraries) are already operating in a hybrid model of interloan supply – utilising a range of interloan options (local geographic reciprocal arrangements, consortial interloan agreements, and commercial document supply vendors) alongside the established national interloan services. However, for public and smaller libraries, the national systems including the Trans-Tasman gateway remain overwhelmingly the first choice for supply.
• **The rise of ‘e’ and the promise of direct access** - has meant that the supply and demand for interloan has decreased, due in part to licensing issues where ILL of e-resources is restricted. In New Zealand, EPIC (Electronic Purchasing in Collaboration) is a consortium managed by the National Library which brokers national licenses for electronic resources to be used in New Zealand libraries. In Australia, the National and State Libraries of Australasia (NSLA) e-resources Consortium, aims to secure access to commercial e-resources for its members. These national consortia simplify and improve licencing arrangements, maximise efficiency, innovation and sustainability for member libraries, and explore opportunities for making e-resources more widely available to all Australians and New Zealanders, regardless of where they live. As such, the success of both e-resource consortia can improve direct access to electronic resources, thereby effecting interloan patterns, and open new options for direct access for example via Patron Driven Acquisition.

• **Large-scale digitisation** - the effect of large-scale digitisation on interlibrary loan is well known. The National Library of New Zealand has just signalled in its Strategic Directions 2030 that all physical knowledge resources important to New Zealanders will be digitised by 2030 (Te Puna Mātauranga o Aotearoa - National Library of New Zealand, 2016). In Australia, the growth of digitised content and its availability via Trove, especially of newspapers and maps, has had a marked impact on requests for this content via interloan channels.

• **Government policies** - in New Zealand, the government move to seek efficiencies has meant departmental amalgamations resulting in the National Library of New Zealand became a part of the much bigger Department of Internal Affairs in 2011. Whilst offering benefits, such as actively supporting IaaS (Infrastructure as a Service) assisting the move to a cloud based managed service, the Library has had to adjust to new timelines and processes. Other local government changes such as the creation of the Auckland super city in 2010 (now the largest council in Australasia) has meant that what was interloan requesting between the seven local authorities is now requesting through the local library management system, thereby reducing requests actioned through the national system.

• **Reduction in the number of players** - in the resource sharing vendor marketplace has meant less choice for libraries. For example, the acquisition of VDX by OCLC in 2007 and of the Relais document delivery system in January 2017 has signalled a contraction in the marketplace over the last decade.

In the context of future planning for national and regional resource sharing services, both national services are analysing interlibrary transaction patterns to predict and explore the potential impact on Libraries Australia and Te Puna in an evolving ecosystem.

**The impact of changing platform on Trans-Tasman regional cooperation - a case study**

In 2016, a decade after the agreement was struck the technology and infrastructure underpinning resource-sharing services in both countries was showing signs of ageing, interlibrary lending was decreasing, and a change in technology platform in the Te Puna service unexpectedly impeded interoperability between the systems. As a result, the sustainability of the agreement was brought into question.
In May 2016, after a series of consultations with member libraries, Te Puna Services migrated its cataloguing platform from an internally hosted service on Voyager software to WorldShare Metadata Services, a cloud-based service hosted by OCLC. This allowed the Library to significantly reduce its administrative workload and maintenance tasks and provide new, expanded, updated bibliographic services to members. The New Zealand National Union Catalogue was retained by the provision of a separate view of New Zealand libraries’ holdings in WorldCat, called Te Puna Search. New Zealand was the first country to move its national bibliographic and resource sharing infrastructure to a hosted managed OCLC service. Being ‘leading edge’ meant a great deal of exploration and learning for both parties along the way.

VDX has struggled to cope with this change. The VDX z39.50 search, now applied to the entire WorldCat database rather than the previous smaller national union catalogue, has meant that VDX BibSearch provides large and unwieldy result sets that "lock up" the system. Another consequence is that New Zealand (or Australian) holdings are not easily discoverable, and for those ISO-ILL libraries without access to OCLC, not at all.

The view from New Zealand

Efficiencies for the interloan service have been lost for New Zealand libraries as it has become necessary for members to separately search the New Zealand view within WorldCat outside of VDX. In addition, the previous platform’s ability to incorporate serial enumeration data could not be replicated in WorldCat, which instead relies on deep linking to see this information. Many smaller libraries, because of system or policy restrictions, are not able to deeplink. This inability to easily see serial enumeration was a loss deeply felt by New Zealand interloan librarians. To address this OCLC implemented individual WorldCat Discovery layers for libraries, provided as part of Te Puna membership, to provide a deeplink to serial enumeration details. However, deeplinking requires the user to search a variety of different local systems, which again has introduced inefficiencies to the workflow.

Despite this, request numbers to Australia have been consistent. This was achieved in part by re-educating libraries to do their initial search directly in Te Puna Search (which clearly shows New Zealand and Australian holdings). A new search profile is being trialled in June 2017 to make BibSearch a better experience for New Zealand libraries.
Figure 1. New Zealand requests to Australia through the Trans-Tasman gateway.

![Graph showing New Zealand requests to Australia over time](attachment://graph1.png)

The view from Australia

The impact on Australian access to New Zealand library holdings has been much more significant. Statistics from 2016-2017 show requests by Australian libraries to Te Puna libraries have dropped by 78%. While a decline in interlending between the two services had already been noted, there was a significant drop in Australian library requests from Te Puna libraries following the migration to the WMS platform.

Figure 2. Requests from Australian libraries supplied by New Zealand libraries

![Graph showing requests from Australian libraries to New Zealand libraries over time](attachment://graph2.png)

Figure 2 shows the dramatic decline in requests supplied by New Zealand libraries. The decline is a consequence not of New Zealand supply issues, but of ‘visibility’ issues as Australian libraries now find it more difficult to search for New Zealand resources via LADD.
From the Australian perspective, the change has had a dramatic transformation in the service offering: New Zealand collections are less visible and less accessible via existing networks that connect to Libraries Australia Search and Te Puna Search. The change in platform affected the Te Puna targets in Libraries Australia Search, Cataloguing, and z39.50 data exchange, as well as significant changes to interoperability with LADD.

In an environment characterised by expanded interloan choice, requesting across the Tasman via the existing regional network has been effectively masked - it is more difficult for Australian libraries to find resources in New Zealand from within the LADD interface, and for ISO-ILL libraries that do not participate in WorldShare ILL there is no access. The migration of Te Puna to WMS interrupted the interoperability between Libraries Australia and Te Puna and subsequently changed the services offered between the countries. One year on and the functionality is yet to be resolved. It is the national services based in Australia and New Zealand who bear the reputational risk of these changes, and their respective members experience a diminution of services.

Reflections

This case study highlights the inter-dependencies and interoperability of national systems in a regional context, especially one as closely linked as the Trans Tasman Interloan network. On the surface, it may have been assumed that two national networks using the same software, both hosted by the same vendor, could adapt to a change in adjacent service platform with minor configuration adjustments only.

The impact of Te Puna’s platform migration on Trans-Tasman regional cooperation provides a case study that highlights the need for large-scale vendors to consider regional perspectives when proposing solutions in long-standing services.

This case study could serve as a lesson for other regional networks spanning geographic or other jurisdictional borders as they prepare for system-based and platform migrations: to ensure that historical agreements and cultural relationships, and other collaborative arrangements that form the bedrock of regional services are taken into account. These relationships help to articulate regional and national identities in a globalised world. The development of new interloan services and solutions should not only focus on addressing technical questions, but also recognise the full range of relationships that weave the rich fabric of regional collaboration and national identity.

Why is regional cooperation and resource sharing important?

Global systems enable global reach, but does this come at the expense of local autonomy and identity? What value do regional networks have in a globalised resource-sharing economy?

Despite access to a world of information in a global resource-sharing economy, regional cooperation remains important to support the information needs of libraries large and small. Collaboration can create economies of scale at national and regional levels (as seen in the areas of transport, support, training, and billing), leverage local knowledge, and facilitate interoperability with other national services such as national union catalogues and national discovery services. The national libraries of Australia and New Zealand are investing in building collections across their countries that reflect their national identities. Part of the value proposition of these collections lies in making better use of them by ensuring access to and effective resource sharing of those collections.
Member-based national services, such as Libraries Australia and Te Puna, advocate for their members in a global marketplace, leveraging national scale to promote best practice and better deals within their local networks. Influencing technical changes to benefit large networks has the flow-on effect of benefitting the smallest libraries within a network. National and regional collaborations are well positioned to ‘think globally and act locally’ to leverage the strengths of their cooperation to influence technical, system and practice change.

Being vendor-neutral, national services such as Libraries Australia and Te Puna play a vital role as regional hubs for raising awareness of unique collections, resource sharing, interoperability, and advocacy.

The future of Trans-Tasman cooperation and regional identity

It is a truth universally acknowledged that library system and platform change is inescapable. The evolving technological and resource sharing environment is signalling further changes to the Trans-Tasman relationship. The increasing threat of fragmentation and dissatisfaction with VDX coupled with the lack of a timeline for replacement software has meant that the Australian and New Zealand national resource sharing services are facing a time of uncertainty.

In New Zealand, Te Puna Services have been involved with various stakeholder activities over the last year to discuss and shape future resource sharing within New Zealand. Engagement has involved a member survey, and national resource sharing forums run in May 2017 with a Resource Sharing Think Tank to develop the ideas that came out of the forums. Feedback from libraries is that a cooperative national system (including one which maintains the Trans-Tasman link) and the national collection is still valued. Modern systems which allow ease of interoperability are the key. There is a realisation that a single system no longer suits everyone and that libraries should have the flexibility to be on systems that better suit their needs, but still be part of the national and Trans-Tasman service.

Libraries Australia is also planning, and reviewing its role in the resource sharing environment and the needs of the Australian library community.

Staff from the national libraries Australia and New Zealand met with OCLC in Melbourne, Australia in February 2017 to discuss potential options for the replacement of the VDX platform. Both libraries are closely observing the evolving resource sharing environment and note that vendors operating in this environment may underestimate the complexities of a national system the size and scale of Libraries Australia, nor appreciate the regional cooperation so highly valued by the Australian and New Zealand library communities.

At the regional level, the focus of the OCLC Interloan Users Group of Australia and New Zealand (OIUGANZ), formerly VUGANZ has been to advocate for the development of a replacement product to VDX that represents the needs of libraries within Australia and New Zealand. Libraries want to ensure that a new solution retains the valued aspects of the system such as the Trans-Tasman gateway and the integrated billing service.

Alongside national and regional discussions about the future of their shared systems, there is also collaboration and discussion around the future of resource sharing in the Australia/New Zealand region. While the current technology platform is not meeting the needs of the Trans-Tasman partners, the national libraries of Australia and New Zealand remain committed to their partnership and are proactively seeking solutions that will strengthen their resource
sharing collaboration through discussion of future directions, knowledge sharing and refreshing the Trans-Tasman agreement.

All relationships need care, attention..., and the right infrastructure to support their work.

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