It is an enormous pleasure for me to be here today to deliver my thoughts on New Zealand’s Digital Content Strategy: challenges and opportunities for the tertiary sector.

Before I commence this address I would like to thank Professor Pat Walsh Vice Chancellor of Victoria University of Wellington for supporting this appointment and the State Services Commissioner, Dr Mark Prebble, for agreeing to me taking up this honour alongside my other roles as National Librarian and Chief Executive of the National Library of New Zealand Te Puna o Mātauranga o Aotearoa. It is a bit unusual to do this sort of thing so I hope I can live up to whatever expectations anyone may have of me!

What I want to do today is use a narrative style to tell three separate and I think compelling and inspirational stories. The stories are interlinked and interdependent. They are stories about a passionate and increasingly strategic profession in New Zealand, a story of a Government and its aspirations for the digital knowledge world we are embracing, a story of the tertiary sector, your sector, and how it is positioning itself to make a much more assertive contribution to global scholarship, teaching and learning. It is also a story about a country and how we are leveraging off the knowledge-led world we
are in by connecting New Zealanders to information important to all aspects of their lives.

My intention in covering this span is to involve all of you, whether you are a student in the Masters of Library and Information Studies and have made an inspired choice to join this wonderful, knowledge led, profession of librarianship which I feel so passionate about, a public servant engaged with delivering the Government of the day’s aspirations and hopes for New Zealand economic, social and educational wellbeing, or you are involved in the tertiary sector in some way with your focus on research, teaching, learning or a combination of each.

Coincidentally these stories will touch on my three roles as well, as National Librarian, as CEO of a Government Department and finally as someone who has spent her whole career either in the tertiary sector or close to the nexus of research, teaching and learning. So here goes. These are fast-moving stories, and remember they are intertwined and interdependent stories.

The title of my address is “New Zealand’s Digital Content Strategy: challenges and opportunities for the tertiary sector”.

I wanted to talk about digital stuff, the world of the worldwide web, of advanced networks, of e-scholarship, e-learning, e-everything it seems, of wikis, blogs, social software and, importantly, citizens created content. I want to talk about what is happening and what I think it all means for the tertiary sector.

In May 2005, many of you will know that the Hon David Cunliffe, Minister for Communications and Information Technology, with four other Digital Strategy Ministers including Hon Marian Hobbs, then Minister Responsible for the National Library of New Zealand, launched New Zealand’s Digital Strategy. This Strategy is bold in its
aspirations, clear in the transformation it hopes to achieve for the economic and social well-being and our sense of national identity, of who we are and our sense of place and belonging in the world.

In essence it is a simple strategy but is profound in its implications. Often referred to as the three C’s framework, it talks about

**Connected New Zealand**  
The need for New Zealand to be wired with ubiquitous broadband infrastructure connecting all parts of New Zealand society

**Content**  
Unlocking the content, particularly content about New Zealand. Filling the broadband pipes with information import to all aspects of our lives.

**Confidence**  
Confident citizens with the skills to make the most of the digital age we are in.

**Story 1 (An inspired library profession)**

I am now going to backtrack six years and look at what has happened in the library profession in New Zealand. In 1999 when the then new Labour Government was elected, the Library and Information Association of New Zealand Aotearoa (LIANZA) held the LIANZA Information Policy Summit (LIPS) in Christchurch to imagine what the Government needed to do to start to realise the economic and social benefits of the information age we were in. We invited the Government to “Watch our LIPS” and we delivered several messages to the Government, one of which was that New Zealand needed a National Information Strategy (NIS). In 2000 LIANZA developed their view of what needed to happen. Coincidentally, the Blair Government were looking at the same
issues and early in 2000, at “The Keystone for an Information Age: A National Information Strategy for the UK “, they delivered a framework very similar to our own in New Zealand.

This was an encouraging comparison for both countries and indicated that the analysis was probably about right.

The real ‘goose bumps’ development came in 2002 when Te Rōpu Whakahau, the Māori Librarians’ network engaged with the NIS with a Māori view of mātauranga. Instead of the 3Cs, we have three baskets of knowledge: Te Kete Tuātea, Te Kete Aronui, Te Kete Tuauri. A uniquely New Zealand metaphor for the knowledge society.

So the groundwork was there by 2002. When I came back to New Zealand in 2003, the relationship between the National Library of New Zealand and the library sector was strained. The kindest construct on this was that the National Library of New Zealand was behaving like a good Government department, siloed, getting on with delivering the aspirations of the Government of the day and relatively remote from its sector or communities. This may seem a harsh evaluation but not too far from the truth and not too different from any other Government agency at the time. But all that changed with the Review of the Centre which Wellingtonians will know as a quiet revolution in the public sector. The review called for more opened-up, joined-up thinking, connection with community, relevant Government etc. In recent times the State Services Commission strategic goals have added focus to the Review of the Centre.

Many of the CEOs appointed at that time were clear about new directions signalled by the Government.

In 2003, mindful of the agenda that LIANZA and Te
Rōpu Whakahau had begun, I went out on the road to consult with the library profession to start to understand what the profession wanted to happen. They had the vision and they were clear what they wanted the National Library to deliver.

The messages from the profession were clear – very clear!

“Give us e-content, especially New Zealand content right NOW!”

“Provide national frameworks which benefit all New Zealand libraries.”

“Provide leadership, inspired leadership, but DON’T tell us what to do.”

**EPIC (Electronic Periodicals in Collaboration)**

- In 2004, an all-of-country licence to e-journals was negotiated with two aggregators. 16,000 full text e-journals to every New Zealand citizen through the libraries of New Zealand. A second contract was signed a few months’ ago involving Science resources delivered by Proquest. The Ministry of Education has picked up the bill for 2,500 New Zealand schools. A wonderful achievement of true collaboration with the large libraries, CONZUL, Metronet, National Library leading the way giving extraordinary, peer-reviewed content to all New Zealand libraries including one-person libraries in the remotest part of New Zealand. You can imagine the joy of these smaller libraries going from nothing to an extraordinary smorgasbord of quality e-resources. The other bit of good news – New Zealand content is growing on EPIC. It was all part of the negotiations. And EPIC has been
important to socialising the idea of e-journals as an important component of a national’s knowledge infrastructure.

AnyQuestions

- In 2005, a real time co-browsing guide on the side, homework service for New Zealand kids was launched called AnyQuestions. Engaging over 120 of New Zealand’s top reference librarians from large metropolitan public libraries the National Library, supported by the Ministry of Education, used EPIC resources as a first step. Two hours a day are in Te Reo Māori, the indigenous language of New Zealand. In delivering AnyQuestions, librarians have retrained to move at the speed of kids, in the minds of kids, totally rethinking reference delivery on line based on an information literacy model ([AnyQuestions.co.nz](http://AnyQuestions.co.nz)). This is a collaborative service based on quality content which has been transformative about the Libraries of New Zealand’s relationship with kids – and the kids love it!

National Digital Forum (NDF)

- A coalition of the art galleries, museums, libraries and archives of New Zealand with a focus on building capability in creating digital content particularly through digitisation. Matapihi ([www.matapihi.org.nz](http://www.matapihi.org.nz)) is the online manifestation of the NDF. What we are seeing is now three sectors thinking strategically about how we can work together in a collaborative way, without any costly bureaucracy to slow down progress. This is what I call common sense collaboration and recently we have just strengthened the governance of the NDF to strengthen the voice and influence of community and local organisations rather than the three national institutions.
We are positioning these sectors to speak with one voice where it makes sense to do so on things like interoperability standards, national digitisation projects and, particularly with the launch of the NZDCS so close, on content creation.

Imagine what would happen if there was a national approach to digitisation across these sectors with digital curators curating content themes that were not organisationally focussed but rather focussed on stories across the country held by individuals, small communities, large and small institutions, national and local. Imagine the content this would unlock! And this is what we are trying to do.

Māori Subject Headings/Nga Upoko Tukutuku

- Launched in April 2006, Māori Subject Headings/Nga Upoko Tukutuku is a collaborative venture between Te Roopu Whakahau, LIANZA and the National Library and is a culmination of 10 years’ work developing a search mechanism from a Māori world view, focussing on indigenous knowledge processes and improved access to Mātauranga Māori or Māori knowledge content.

National Digital Heritage Archive (NDHA)

- The final content example I want to give is the National Digital Heritage Archive project. This $24 million project stems from the modernising of the National Library of New Zealand Act to bring legal deposit into an electronic domain. The Act mandates the National Library to harvest all New Zealand born digital publishing, sound, moving image and textual material, websites, blogs, in the New Zealand domain – an extraordinary amount of digital content kept in perpetuity.
The Heritage Archive will feature later when I turn my comments to New Zealand’s Digital Content Strategy. It is envisaged the NDHA will be a core component in NZDCS so that from day one, New Zealand will not only have a strategy for content creation but we will inject e-content into the NDHA and it will be preserved in perpetuity, so that in 50 or 100 years time we can look back on New Zealand’s digital memory and know that the decision we made in 2006 when the NZDCS was launched was hugely important to a nation’s sense of national identity.

What I have just described is three years of strategic activity in the library profession in New Zealand, which adds to many years of collaboration and resources sharing with National Union Catalogue, interlibrary lending and the national bibliography. What I want you to notice is the speed with which it has happened, the depth of collaboration and the strategic importance of the pivotal role this will play in New Zealand’s digital future. And it has been noticed. Those who have read the New Zealand Digital Strategy will see libraries featured in a very encouraging way. It has been strategically, politically and socially important for the libraries of New Zealand to work in this way, and this national approach, these national frameworks benefit everyone – the large and the small libraries – so brand library is the winner and we give a local community look and feel on individual websites so the relationship is maintained with local needs.

**Now the journey gets really exciting!**

**Story 2 – New Zealand’s Digital Content Strategy**

**Unlocking Digital Content**

I am now going to put this activity into the context of a much broader perspective so you can see where these various content initiatives
initiated by the library and information sector sit in relation to the New Zealand Digital Strategy, and in particular the Content C in the 3 C’s framework. Content is now centre stage as New Zealand’s Digital Content Strategy is on target by the Hon. David Cunliffe and four other Digital Strategy ministers, including the Minister Responsible for the National Library, Hon. Judith Tizard in April 2007.

The Hon. Judith Tizard, Minister of the National Library explains how the National Library of New Zealand was chosen as the lead agency for the Digital Content Strategy.

Ainslie Dewe, Former Chair of the Library and Information Advisory Commission talks about the contribution that libraries will make to the Digital Content Strategy.

Next week, Cabinet will receive the draft content strategy, which has had contributions from 52 government agencies, and will now be distributed for further consultation to community, business and across government. I won’t go into detail about the strategy. You can access this on www.digitalstrategy.govt.nz. I will, however, highlight features of the strategy which has direct relevance for the tertiary sector of New Zealand and I hope you will see just how important the collaborative content projects have been.

The Content Strategy defines digital content and offers three interconnected views of content – formal, informal and business content.

**Formal content** typically covers that which is provenance established; e.g. in museums, archives, libraries, government departments, scholarly publications – artefacts, research, newsletters, articles, books, applications/programmes etc. We could regard scholarly publications, raw research data learning
objects as examples of formal content relevant to the tertiary sector.

**Informal content** typically covers content such as text, photographs, individual’s cam-captured material, wikis, blogs, chat emails … folksonomies – lives on the web. This is the truly ‘edgy’ part of the New Zealand Digital Content Strategy. It is the world of the anarchic web of citizens-created content. This is the content that will, I believe, transform the way we think about teaching / learning and research in the future. What will the impact on the tertiary sector be?

**Business content** is that used or created for commercial gain, that supports efficiency business… data, products, applications, creative content industries – sound, image etc. Research outputs which have digital or intellectual property with a commercial value would typically fit in this domain.

The strategy signals several content funding initiatives and, while these are likely to be crunched down a little, several of these six initiatives have direct relevance to the library sector. While funding has yet to be secured, the initiatives have undergone extensive consultation and I am quietly confident they focus on the areas we need to address if we are to unlock New Zealand created content in a meaningful way, either for social or economic gain.

The initiatives include a proposal for the establishing of a coordinating mechanism called **Digital New Zealand** – Digital New Zealand will oversee, amongst other things, standards, funding allocation commission, research, market and promote the digital content sector, monitor and evaluate the New Zealand Digital Content strategy.
Initiatives which may impact on the tertiary sector include:

- **Digital Skills** – What skills will citizens need to accrue social and economic benefits from the digital age?

- **Digital Know-how** which aims to provide tools, information, face-to-face advice to community organisations, iwi, hapu groups and individuals to enable them to create, access, store, use, preserve and protect content. This will be a Web 2.0 environment with social software citizens created content – a transformational area for teaching, learning and research.

- **Digital New Zealand Fund**. A long-term project to digitise existing physical content to achieve greater public access to New Zealand content to be engaged with; re-purposed, re-used for e-Learning, teaching and research.

- **National Framework of Content Repositories**. Making publicly funded content (particularly New Zealand’s research output) visible and accessible by storing it in interoperable standards-based repositories (digital warehouses) connected by a national framework and a single search interface.

- **Government Digital Archiving Strategy**. To ensure effective preservation of significant New Zealand digital content.

**Story 3 (The tertiary sector – opportunities and actions)**

What impact will the NZDCS have on the tertiary sector? What are the likely opportunities and challenges? Before suggesting where some of the focus is likely to be, it is worth taking a quick look at the sort of teaching, learning and research environments the ‘next generation’ of students will be likely to expect. What are students and teachers telling us?

Amanda and Professor McNaughton pretty well describe the kind of challenges we are facing to ‘known’ means of communication, teaching and learning. Engaging with the “millenials” will certainly redefine established approaches and processes. I don’t have the time to go into the likely impacts today and to be honest I don’t think...
we really know how the anarchic web, the world of social networks, the wikis, blogs, hand-held devices etc. and goodness knows what else will pan out. What I do know is we can’t ignore it! It is affecting the way we learn, analyse, synthesise and make sense of information and reconstruct it into new ideas and arguments. We must therefore predict the impact on your institutions will be significant. Web 2.0 which is a term I imagine familiar to you to describe this transforming array of social software is certainly revolutionising the world of content creation. There is a massive shift to citizens created content. The good news is university and polytechnic libraries here in New Zealand are already heavily engaged in understanding and responding to the implications of Web 2.0. If you want to understand the transformation that New Zealand tertiary libraries and the National Library of New Zealand are currently engaged in, I recommend a recent webcast presentation by Lorcan Dempsey on the digital library landscape and trends in the world of web 2.0 organised by the Digital Library Division of Edinburgh University Library on 3 July 2006.

The natural question for the audience today is, “are your teaching and research endeavours engaging with the same transformative agenda? Are you ready to meet the expectations of Amanda Dorrell?”

Let me now turn to some slightly more concrete and optimistic observations of the likely impact of New Zealand’s Digital Content Strategy in the tertiary sector, because there has been a great deal of activity which will, I think, mean we will be well placed to respond to the transformative agenda of Web 2.0. I am going to now outline some of the initiatives and thinking in education which relate very closely to NZDCS and which will, I expect, make the tertiary sector a significant player, particularly in the informal and formal content space which I described earlier.
As most of you will be aware, in 2004 the then Minister of Education, Hon Trevor Mallard, set an ICT agenda for education which in simple terms looked at creating a joined-up, interoperable, standards-driven infrastructure for education which would deliver common learning, teaching and research platforms from early childhood education, through to the compulsory and tertiary sectors. This ICT agenda has been led by the CEO’s of all the education agencies which in your context have been the Ministry of Education, Tertiary Education Commission and the New Zealand Qualifications Authority as well as the National Library of New Zealand. All of these agencies have been working closely together with the ICT for Education Management Committee representing all of these agencies being the real change agent for bringing all of these infrastructures together into a transparent, seamless, searchable, shareable, sustainable architecture. This work is ongoing and from my viewpoint excellent progress has been made with the National Library of New Zealand lining up our activities with education architectures. Of importance to NZDCS is the fact that the ICT strategy for education has, from day one, lined up its activities with the 3C’s in the Digital Strategy and we are anticipating the sector to be a significant player in the NZDCS.

I recognise that all this infrastructure stuff is probably not immediately very appealing. However I believe the sector has been bold in picking up this work and highly strategic in what it will help to deliver in the future. And, in today’s context it needs to happen before digital content, particularly NZ content can be shared and exchanged in any meaningful way.

International recognition for the quality of the work achieved to date by the ICT for Education grouping was cemented earlier this year when agreement to work together was signed between JISC (the Joint Information Standing Committee) which leads the U.K. higher education ICT work and DEST (Department of Education Science...
and Training) in Australia. This is excellent news for the tertiary sector here because it means that we will work closely with Australia and the U.K. on issues such as e-Learning and digital library convergence, content creation for learning and research purposes, research repository architectures, federated searching and interoperability and standards work. To translate all of this millennial speak, what it means for New Zealand is that we will benefit from the millions of dollars and pounds invested in higher education in the U.K. and Australia and they will benefit from the well-regarded work done by the various sub-groups of the ICT for Education activities. It brings New Zealand’s research, e-Learning and content creation infrastructures into an international arena. And this is good news for the NZDCS.

Let me now turn to some examples of where the tertiary sector will help shape the NZDCS. In the crudest terms you can describe the research outputs, all forms of scholarly communication, e-Learning objects as examples of content creation.

In relation to the NZDCS and the concept of Digital New Zealand we can anticipate that one of the best content feeds will come from the tertiary sector. However the ‘tough love’ message is that the sector needs to engage quickly because we are well behind the rest of the world.

Of course the roll out of KAREN, the advanced network, will provide a crucial world-class broadband infrastructure through which digital content will be communicated so the conditions will be more conducive to processes of content creation and dissemination.

One of the areas where you can make the most immediate contribution is to act assertively in ensuring that New Zealand’s publicly funded scholarly research output is accessible free on the web. There are many arguments for doing this (and I do
appreciation the IP and rights management issues which underpin access of this kind). However, the bottom line for me, and this is a librarian speaking, is that it is simply unacceptable for publicly funded research to be so inaccessible. It is about the democratisation of information and of presenting to the global networks.

While we have much in New Zealand, we need to move quickly. In June last year the National Library of New Zealand sponsored a research report in partnership with CONZUL (the Council of New Zealand University Librarians). This work was endorsed by the NZVCC, TEC and ITPNZ and other ministries.

This report (http://wiki.tertiary.govt.nz/static/wikifarm/InstitutionalRepositories.uploads/Main/IR_report.pdf) outlined how publicly funded research could be made accessible through a national framework of research repositories through the country connected together by a national framework with a common or federated search and meta data harvesting strategy.

Slides 30, 31, 32 describe the repository framework and how it feeds into Digital New Zealand.

While individual universities and polytechnics and particularly the libraries in these organisations have made good progress particularly in improving accessibility to digital theses through the Australasian Digital Thesis project, we must, in my view, take a much more strategic view about the rapidly changing international nexus of scholarly communication and open standards, exposing research into open access environments. It will need significant cultural change in our tertiary institutions in New Zealand and I believe some policy development around the PBRF to achieve this strategic shift quickly.
Tertiary libraries are engaging with this shift in scholarly communication but it needs to have strategic leadership and policy development by the NZVCC, ITPNZ, TEC if the tertiary sector is going to be a significant contributor to Digital New Zealand.

We are seeing some progress. The Ministry of education has invested some $200,000 in Massey University’s involvement in the DEST-funded RUBRIC project in Australia which is testing repository architectures in smaller higher education institutions in Australia.

Recently $2.2 million has been granted by the Tertiary Education Commission to three institutional repository projects through the ECDF fund, led by the University of Auckland, Manukau Institute of Technology and CPIT. And excellent research repository work is being done by LCONZ a consortium of four University libraries.

The National Library of New Zealand has been asked by the TEC to provide a national framework for institutional repositories in the tertiary sector, delivering meta data harvesting and a common search and discovery layer feeding into digital New Zealand.

While this is good progress, I don’t think we will see the sort of strategic impact that is possible unless there is concerted support from the NZVCC, ITPNZ and the TEC in developing an all-of-country approach to improving access to New Zealand publicly funded research.

Before I begin to summarise, I want to give you another example where I think NZDCS would have a very important impact on learning and teaching in the research sector. In its broadest sense, digital content is fundamental to the delivery of learning on line. Old generation e-learning platforms (and this is a personal view) have
really failed to deliver the sort of impact that we expected. It isn’t really a great way to learn and it has tended to be technology rather than pedagogically driven.

In my view the new generation learning environment is much more likely to appeal to the millennials that I referred to earlier. The National Library of New Zealand and Ministry of Education have in recent times been working together on next generational learning environments using open source learning systems to trial greater digital library and e-Learning convergences. In very broad terms, we are trying to “liberate” digital content of all sorts (peer-reviewed journals, informal and formal content) uninhibited by inflexible packaging of learning objects, passwords, sign-ons and all the stuff that irritates the millennials. Using the principles of Web 2.0, it will be a much more anarchic, learner-driven world where the teacher will become learner and the learner the teacher. The boundaries are blurring and, if we get Digital New Zealand right, it will unlock much of the legacy New Zealand content and liberate it to the network. I suggest that the old generation e-learning architectures will need to be rethought and I know many tertiary organisations are well on top of this transformation.

Concluding comments. (Bring the three stories together.)
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4. National Information Strategy (NIS)
5. Te Roopu Whakahau
6. EPIC (Electronic Periodicals in Collaboration)
7. Council of New Zealand University Librarians (CONZUL) – www.aut.ac.nz/CONZUL/CONZUL
8. NDF
9. Maori Subject Headings
10. Any Questions – anyquestions.co.nz
14. The Joint Information Systems Committee (JISC) in the United Kingdom – www.jisc.ac.uk/
National Frameworks for Institutional Repositories in the Research Sector

- In June 2006 the Tertiary Education Commission funded several Institutional Repositories projects to connect the tertiary sector. The National Library will develop a national framework of institutional repositories across New Zealand’s universities, polytechnics and Crown Research Institutes, with metadata harvesting tools and a common search and discovery layer. This will provide an important content feed into the Digital Content Strategy by June 2007 and it will expand to include forms of community digital repositories as well as the National Digital Heritage Archive.