

That was then, this is now...: processes, services and the future of New Zealand government portals

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Abstract

This paper describes a new approach to service and process metadata description for an all of government portal, to enable users to gain access to New Zealand government “processes”.

Keywords: NZGLS, services description metadata, relationship metadata, workflow systems, XTM, portals

1. Introduction

Last year at DC 2002 John Roberts and I discussed two different aspects of metadata use by an all-of-government portal (www.govt.nz) (a) What are the issues around description of services in such a contextⁱ and (b), the implementation of a DC-based Standard as the basis for resource (services and documents) discoveryⁱⁱ.

Since the metadata-driven portal was launched on 14 November 2002 there has been a pleasing level of increased interest. In general, the response to the portal has been positive.

2. Drivers for change

We now have 9 months’ usage under our belt, and a much better understanding of the portal’s operation based on actual practice. A number of usability issues have emerged which need to be addressed to fulfill the New Zealand government’s aim that networks and Internet technologies will be integral to the delivery of government to New Zealanders, enabling them to transact business or receive services over the Internet.

It has also become more apparent how the metadata repository (Metalogue) is a valuable re-usable resource across government. We are already seeing sectoral portals, such as www.worksite.govt.nz and www.biz.org.nz, reusing sector-focussed metadata from the central repository. This ensures a consistent “with one voice” description of government services as well as being efficient financially. As at July 2003, we had 6 portals either using or planning to use, the existing metadata descriptions.

While the earlier versions of the portal used a directory model, the new portal is modeled on the discovery of services. There are some limitations to this model. For example:

- Sets of services related by topic are displayed on the portal in alphabetical order. So a service which ought to

be accessed before another service in a transaction-based process may appear in the wrong order (look at the example, [Student Loan](#) as a topic heading).

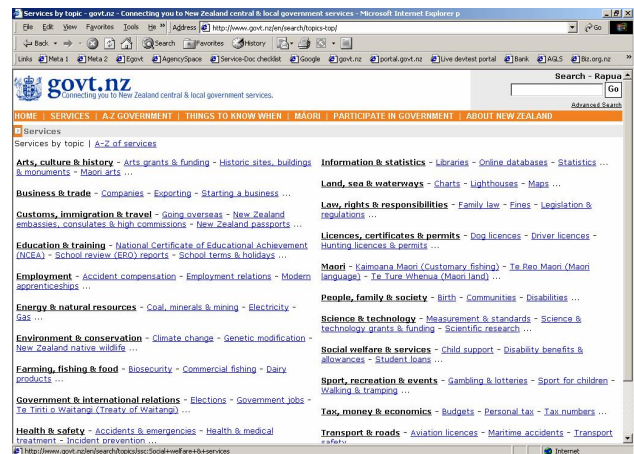


Figure 1

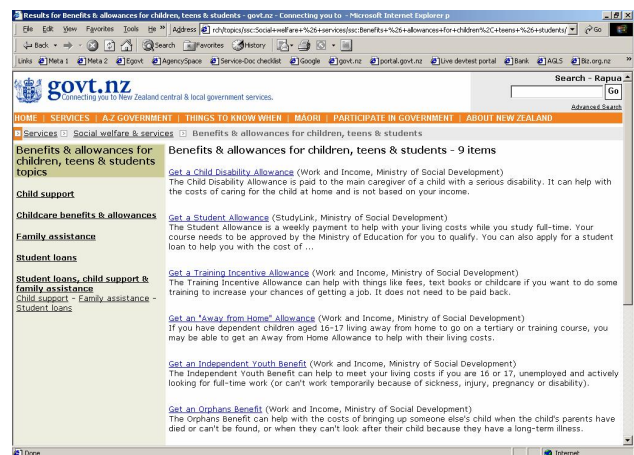


Figure 2

- The same is true of a free text search (“[student loan](#)” is typed in the search box)
- Another search mode where this problem occurs is in the [Things to Know When](#) or life events section. Under each life event a number of services are displayed but there is no way to connect them to create a logical process which can easily be followed by a citizen

This display behaviour is the result of using of two encoding schemes of the Subject element called NZPG

(New Zealand Portal Group) and NZPF (New Zealand Portal Feature).

Using the current Metatalogue, sector portals have to create their own NZPG-type encoding scheme. This is already becoming unwieldy to manage, technically and from a business process perspective.

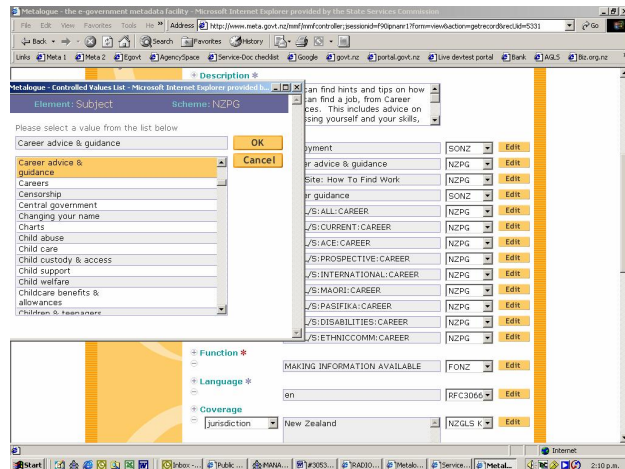


Figure 3

3. Processes, not services

The portal also relies heavily on the use of the Relation element in the metadata records, using the isPartOf/hasPart relationship. This relationship is used to connect services and documents so that they display usefully. For example, in the [service](#) description for “Find information about student loan repayments”, refer to the list under the heading “For more information see”.

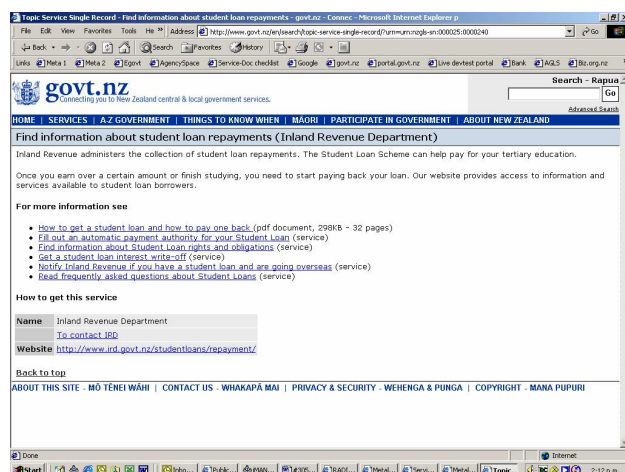


Figure 4

However, these connections are not necessarily displayed logically. Which service or document ought a user to access and in which order? Furthermore, there is no way, in the Relation element, to incorporate fine hierarchical distinctions as well as business rules, enabling

a user to know both the order of the services to follow **and** what dependencies there are. For example, what information do I need to get from a particular Inland Revenue Service, before I can sensibly access a particular Companies Office service?

The E-government Unit had always planned that both the metadata creation tool and the Portal user interface would go through a significant redesign within a year based on real-world experience rather than theoretical speculation. These issues outlined above are just some examples of how this experience will lead to better outcomes for users.

4. Redesign of metadata creation tool and portal

Metatalogue, the metadata creation tool, has gone through a significant update. There are now two interfaces, to take account of the needs of different sorts of metadata creators.

- (1) A Simple interface largely masks the [NZGLS specification](#), on the basis that metadata content creators are likely to come from a business unit within an agency and are unlikely to have an interest or competence in the details of metadata creation, such as matching elements to appropriate encoding schemes.
- (2) The Advanced interface incorporates all NZGLS specification options transparently.

A clumsy method of ensuring referential integrity between services and documents has been replaced with an organizer-style method of connecting a document record or indeed, another service record, to a service record. The original tool required a metadata author to create the hasPart/isPartOf pairing in both records, rather than just once.

Alongside these improvements, we are reviewing the design and architecture of the portal itself, based largely on user experience and an analysis of the effectiveness of the current functionality. This is planned for the latter half of 2003.

5. Improved relationship models

There are two key aspects of this work. The first addresses the process/service connection. To assist general users and, particularly in the case of businesses, minimize compliance costs, we want to create “processes”, a process being a number of transaction services. The second relates to better management of topics and their relationships.

Regarding the first aspect. The New Zealand Government Locator Service (NZGLS) Working Group (established by Archives New Zealand as part of that organisation’s metadata standard “custodian” role) has advised the Egovernment Unit’s Portal Operations Group on possible ways forward. Their recommendation is to base

the development of a method for describing processes on research into the use of the workflow system model. An example process would be developed using a proprietary workflow system, and then research undertaken on how the sequencing is being encoded.

Once such research is completed and the concept proven, it is planned to develop a DC-based metadata schema enabling the description of the relationships between services, and the distinctions between the types of relationships. We would be describing the “vertical” relationships between the Process and the services which make up the Process, as well as describing “horizontal” logical workflow relationships between services.

We expect some services to be included in several different processes. Separating the metadata describing the service from the metadata describing the relationships means that it is easier to create multiple processes.

It was recognised by the Working Group that rules will be needed on the usage of the NZGLS element set to describe a process, as well as a new encoding scheme for use in the Relation element to define workflow rules (which could be called the “NZGLS Rules” encoding scheme). Relation.requires will be examined further as an option to achieve this.

Regarding the second aspect of the work. In the context of the metadata creation tool redevelopment we are looking at using the XML Topic Map standard (XTM). It is an abstract model and XML grammar for interchanging Web-based topic maps. The XTM specification provides a model and grammar for representing the structure of information resources used to define topics, and the associations (relationships) between topics. Names, resources, and relationships are said to be *characteristics* of abstract subjects, which are called *topics*.

Use of the XTM specification will certainly address the topic management aspect of the relationship model and may help to address the services linking issue.

E-government Unit is also looking at other technologies (ebXML, UDDI, WSDL, and SOAP) as they mature, with the aim of enhancing agencies’ service delivery using the Internet channel.

6. Online services, not just information access

The developments we are working on will move the all-of-government portal significantly towards its goal of providing access to a total package of interactive services, rather than simply information access. This service/process enhancement means that workflow capability could be introduced across the agencies whose services comprise one process. This would enable intelligent information gathering and routing of, for example, user/client information requests and submission of documents.

7. Potential catalyst for change to government processes

While working with agencies to develop their services metadata we have recognized that this analysis can prompt a significant review of services and processes within an agency. For example, a number of agencies have already revised their websites to create a better match with the portal service description. This means a much more unified experience of the services for the user.

We believe that the rubber is really going to hit the road with the development of a “process” view of services because it will provide an opportunity for agencies to work together to create access to services that goes beyond the individual identity of one agency. The all-of-government identity becomes more significant. Having said that, an important principle to apply will be that of ownership of the individual services by agencies, and ownership of the processes by the E-government Unit.

8. Conclusion

E-government Unit is using DC, XTM and other standards to create coherent service processes. This drive to change service description and its delivery via the New Zealand government portal is being done to achieve the outcome of better service for the public. The major work to accomplish this will take place in the second half of 2003.

ⁱ Describing Services for a Metadata-driven Portal, John Roberts

ⁱⁱ New Zealand Government Implementation of a DC-based Standard: Lessons Learned, Future Issues, Sara Barham