

Chapter 3: A Framework for a National Land Information Infrastructure

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Overview

As a federated county, Australia's land administration systems are state and territory based. These systems, which record information pertaining to land ownership, land tenure, land use and land valuation, have supported and continued to support the requirements of the respective states and territories (Bennett et al., 2011). Increasingly however, as initiatives that have a national focus (e.g. carbon trading, environment issues, etc.) come into play, the limitations in gaining current reliable land administrative data at a national level become apparent. Many businesses, some of whom may need access to national land information, are also becoming more nationally focused as evidenced by the 70% growth in businesses operating across state borders between 2003 and 2007 (OECD, 2010).

The push to operate more effectively nationally across a range of activities has increased over the past decade. This was clearly evident when in 2009 the Council of Australian Governments (COAG) initiated the concept of a seamless national economy (COAG Reform Council 2009). This resulted in some 27 projects aimed at reducing regulation that were impacting the efficiency of doing business in Australia. Whilst only two of these projects would directly affect land administration in the state and territories, this COAG initiative clearly demonstrated the growing need for many of the systems, which were state-based, to either be replaced by national regulations or achieve similar outcomes through the implementation of an overarching system, which would draw together the state-based systems to form a national view.

A number of initiatives (e.g. PSMA Australia, National Electronic Conveyancing, ANZLIC, etc.) have commenced over the past years, which

have met some of the land information requirements (Bennett et al., 2011); however, there remains a need for a cohesive, more complete, more current and cost-effective approach to support Australia's need in this regard. The challenge facing Australia is: how does it take advantage of the good land administrative systems operating at the state and territory level such that that same information can be viewed from a national perspective?

Assuming the need exists for a national land administration information infrastructure, how could this best be built? As previously mentioned, land administration data in Australia is essentially a state and territory based environment where their systems support their respective land developments processes as well as generating revenue. Given this situation it would appear the most feasible option available to achieve a national infrastructure is to build an overarching environment that consumes the key elements of the land information held by these systems.

Resolution of the problem can only be achieved by the implementation of a national land information infrastructure through a collaborative effort between all the governments of Australia. To a significant degree, processes have been underway for the past twenty years and have been slowly evolving; however, significant gaps in a national approach remain and existing processes are not delivering national land information in all the required areas. Essentially defining a national land information infrastructure is the role of the Australian government, not as the owner or necessarily the facilitator, but as, first, the major client and, second, as the potential source of the funds to strengthen slowly evolving processes.

The land Information and Services Business Model

The two ventures outlined below follow much the same pattern in establishing a national system or data set from information held by the states and territories and perhaps provide some guidance on the establishment of a national infrastructure.

In the case of PSMA Australia, the Australian Bureau of Statistics (ABS) required in the early 1990s developed a specification of their needs with regards land information, sought a supplier whom they were prepared to pay for the delivery of these services. The price for the delivery of the service was based on the specifications. As a result, the Public Sector Mapping Agency comprising all the state and territory governments was formed and delivered on ABS's requirement. This organisation would later become PSMA Australia (Paull, 2009).

In the case of National Electronic Conveyancing Development Ltd (NECDL), pressure from the business community to some degree brought about COAG nominating electronic conveyancing as part of the seamless economy agenda (Merritt, 2008). This followed the collective efforts over the previous years by a number of the state governments directed towards a national approach to electronic conveyancing. As major beneficiaries, the banks played a significant role in specifying their requirements of the system and input capital into the process to ensure its successful completion (NECDL, 2011).

These instances demonstrate that the major beneficiaries of national systems or data sets must:

- provide a clear understanding of their requirements
- be prepared to contribute a significant proportion of the funds to the project.

In neither case did the major user of the service take control of the company formed to deliver the service but left to the states and territories. PSMA Australia has successfully delivered several significant national spatial datasets on a quarterly basis since its establishment in 1992 (Paull, 2009). Whilst the national electronic conveyancing system is yet to be delivered, it is well on its way (NECDL, 2012a).

Both PSMA Australia (Paull, 2009) and NEDCL (NECDL, 2012b) are based on a similar corporate model and operate under corporate law as does any other company. Their shareholders ensure access to information and to the details of local administrative arrangements affecting the custodian organisations that create and manage the information. Thus the intimate details of administrative management in its various guises, as changes are made by sequential governments, are within its natural and comfortable purview. The political and bureaucratic changes occur without diminution of the national information products.

What does all this mean for a national land information management infrastructure where the states and territories have responsibility for land administration in their respective jurisdictions? It essentially demonstrates that major users of national services and or datasets involving land administrative data must take the initiative in identifying their needs and be prepared to significantly contribute to an initiative that satisfies them.

The Lawrence report prepared for the Australian Government clearly identified a considerable need for spatial data at a national level including

the fundamental land administrative datasets such as owner, valuation, planning, land use, and development status (Lawrence, 2011). Whilst a number of departments utilise the PSMA Australia national spatial datasets, some departments seek the required information directly from the State and Territory governments. This is particularly the case where PSMA Australia do not have the necessary information. There is also some concern that the information acquired either through PSMA Australia or directly from the respective jurisdictions is not to the standards required by the Australian government departments (Lawrence, 2011). These jurisdictional governments however have no incentive to bring the data up to the standards required by the Australian government particularly when information services already meet their local requirements.

The initiation of a collaborative approach to develop a singular specification that would apply across, effective throughout the Australian government, is however problematic. In 2001 the Office of Spatial Data Management (OSDM) was created by the Australian Government to facilitate some cohesion across the Australian Government departments and agencies. Whilst a degree of success in some areas was achieved, a singular approach to data acquisition from the States and Territories was not developed. A review of Geoscience Australia in 2010 recommended that a new policy office replace OSDM and that it be under the direct control of the secretary of the Department of Resources, Energy and Tourism to increase its horizontal reach across the departments (Commonwealth of Australia, 2011). This recommendation brought about the establishment of the Office of Spatial Policy (OSP). A location data policy framework was also developed by the APS 200 committee (Scott et al., 2011). These recent initiatives certainly provide the impetus to provide and develop the vital cohesive approach within the Australian Government.

Components of a National Collaborative Model

A collaborative model to support a national land information infrastructure for Australia must reflect the involvement of all three levels of government (i.e. local, state and federal), either as data generators, data integrators or as data users.

The structure of the model must be deliberately simple. Three operational collaborative systems need to work with each other towards specific goals, plus an overarching standards and review body. The degree to which of the four components successfully meets their respective goals, will determine the degree of success of the national model. It is a model that can evolve

over time as various data themes are developed and as some of the new processes become entrenched in the operations of the various levels of government. The overarching body would have no statutory control over the various collaborative models but would publish reports to all levels of governments on the progress being made.

Local – State Government Data Integration and Data Supply Tier

Local government represents the foundation or source of much of the land information required to support a national land information infrastructure. At the local government level information pertaining to land such as addresses, valuation, land use, building and occupancy details are generated to support various state legislative processes. Whilst local government requires this information to fulfil its operational requirements, much of the information is also required to underpin broader state government policy and operation requirements. To this end, each state government collects and integrates, normally as part of legislative requirements, each of these data themes into its various databases. In some cases there is no legislative requirement; however, operational requirements over the years have led to the establishment of practices that bring about the data integration (e.g. street addresses in most states). Many of these data themes are held as discrete databases at a state government level although over these past years, there have been some efforts to align the themes. As a general rule each of these databases meets the respective state and local government legislative and operational requirements.

This data integration between local government and state government represents the first tier of a collaborative model required as part of an overall national land information infrastructure. Essentially this tier is driven by long standing operational requirements for the effective operation of each state and territory. Whilst further improvements to support the national requirements are needed, particularly with a more consistent approach to the timely collection of data by state governments, data standardisation and better alignment of the various themes, this tier of the model is already functioning and fulfilling much of its requirement towards a national infrastructure.

Australian Government – Major Client Tier

Jumping over the middle tier of the model to the Australian Government tier of the model we find many government departments and agencies are seeking access to the land information generated by both state and local government. The creation of national spatial datasets by PSMA Australia such as Cadlite, Transport dataset and Addresses has certainly improved this situation as shown by the widespread use by Australian government departments of the PSMA datasets. These PSMA datasets however do not meet all the Australian Government's requirements either in terms of content e.g. (valuation, land use), data currency and in some cases data quality (Lawrence, 2011). As previously mentioned apart from the initial specification by ABS in the early 1990's, which brought about the creation of PSMA Australia, the Australian Government collectively has failed to outline what its requirements are. With each Australian government department focusing on its own requirements there has been no collective effort to define the broader requirements of the government. Unlike the local government/state government tier of the proposed national model there has been no operational requirement to do so. With the establishment of the Office of Spatial Policy (OSP) and work of the APS200 Location project, this tier of the model could not be considered a work in progress but it remains to be put into place. Essentially this tier involves collaboration across all Australian government departments to deliver a specification that will support their overall requirements. This would involve individual departments acknowledging their current and future requirements and their current costs in working across multiple state and local government departments in collecting and translating land information into their respective datasets. Only through this work would the Australian Government assess the true value of land information to the development of policies and their operational needs. In summary this tier of the national model is yet to be realised.

State and Territory Government Integration Tier

The final tier of the national infrastructure is the integration of the state and local government data into national datasets. To a significant degree much of the framework for this is in place. PSMA Australia has been in existence for nearly 20 years and NECDL is in the process of establishing a national land conveyancing system, which will link up the various land registries around Australia. Whilst owned to a very significant degree by the governments of Australia, they are not funded by government for their operational requirements and as such rely on the development of products that meet the needs to a client prepared to pay for the service or resource.

It would be expected that if the major client (i.e. the Australian Government) detailed its requirements with regards to land information in terms of content and quality, either PSMA or NECDL could assess the requirements and costs of doing so in conjunction with the states and territories as the respective sources of the data. This is no different to any company operating in the private sector where a potential client is seeking a new or improved product.

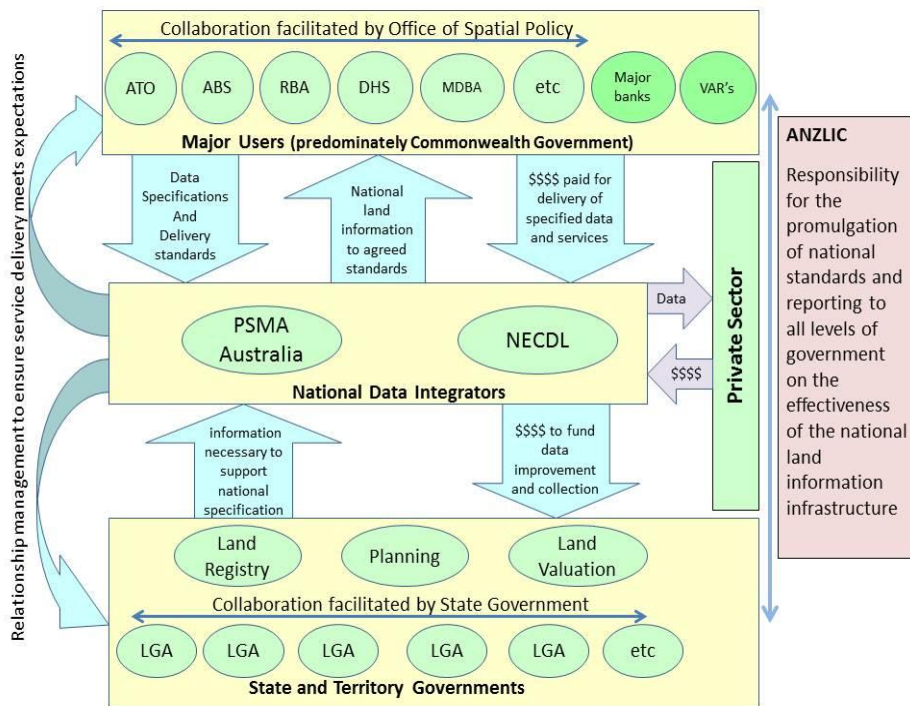
In the case of PSMA Australia, which has in place Value Added Retail (VAR) network, an assessment could also be made of the wider use by business of new and improved products.

In summary, the national integration tier of the model to bring together the state-based data already exists and is in operation; however, like any private sector company it will only deliver to what the market place requires and is prepared to pay for.

National Standards and Review Body

This body also already exists in the form of ANZLIC. This organisation is comprised of representatives from the Australian, State and Territory Governments and as such is well placed to report back to all governments on a regular basis on the progress of the three tiers of the model. It will also take the requirements of the Australian Government as the major client together with any additional requirements it deems necessary and create standards across the various datasets. It already performs this role and has completed a number of standards such as the Addressing, Transport and Cadastral standards. Preferably its constituency could be expanded to include a local government representative given the key role local government play in the land information process.

The diagram below sets out the key components of the model and the relationships that are critical to its success.



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