

Understanding the Motivations and Capacity for SDI Development from the Local Level

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Structure of Presentation

- Why is local government data important
- Overview of the Australian system
- Focus on property based data
- Key issues we face with local/state government environments
- Local/State partnerships
- Co-operation/Co-ordination/Collaboration
- Research approach
- Some comments on motivations/capacity building
- Conclusions

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Background

Local based spatial information is important.
Most citizens interact at a local level with respect to spatial data



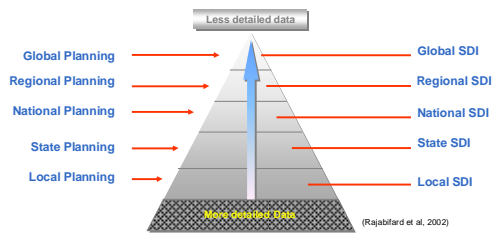
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Background

Detailed Data at Local Level



(Rajabifard et al, 2002)

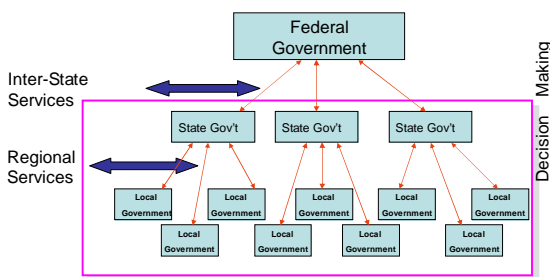
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Background

Australia has a System of Federated States



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Background

Government Environments in Australia

- Hold all key property data at local and state levels
- Australia ranks highly in technology development and e-commerce
- Complex political environment
- 684 diverse local governments and 8 states and territories

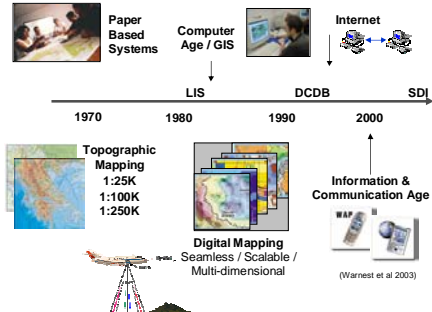
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SDI in Australia

Evolution of SDI in Australia



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GIS and SDI

- GIS uptake in local government has been high and led other levels of government.
- Local gov't understanding of state and national spatial data infrastructure however is generally poor.
- Therefore, in local government there is a good use of technology and software for business solutions, but poor understanding or awareness of need for integration of infrastructure (institutional/political)

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The Problem

Importance of Address and Property Information

- Accurate and reliable spatial information regarding address and property information is critical
- In Australia, there over 200,000 new address points each year, however the update of the emergency management databases often only occur a few times a year
- Address and property information service many business needs ie real estate, transport, service industries

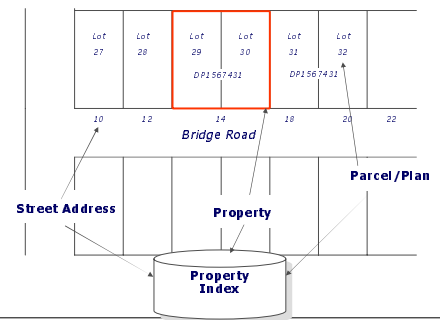
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Property Data

Addresses, Parcels and Properties



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Property Data

Street Address, Parcels and Properties – What's the difference?

- Street Address – one of the most commonly used and understood geospatial data sets in the world – *In Australia Local Government is the Custodian*
- Land Parcel – usually defined as the building block for the cadastre – *State Government is custodian*
- Property – the term property is used by business and public. A property may comprise of one or more land parcels – *Local Government is custodian, but used by states for land valuation*

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Key Issues

- Address/Property/Parcel Linkage continues to be a problem...
- Existing government relationships are stressed
 - Different jurisdictional attitudes
 - Differing institutional arrangements
 - Poor history of co-operation
- Address is a fundamental data set of the state and national spatial data infrastructure (SDI)
- It supports emergency management through mapping a street address to a geocoded position ie where is the fire, accident etc

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Key Issues

- Business needs of local government are different to the state government
- Property data has a commercial (business) dimension and is valued differently by each jurisdiction
- Existing partnerships for data sharing were established by the state agencies with limited understanding of local government business needs
- The success of existing data sharing partnerships varies dramatically and their sustainability is unknown

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Policy Issues

SDI Policy

- Most countries have established national policy for spatial or geographic information infrastructure, (ANZLIC, FGDC), however
 - Policy development has been less than inclusive of all jurisdictions
 - Lack of awareness by lower jurisdictions eg local government
 - Progress on national outcomes has been limited
 - Government agencies in most countries continue to hold the majority of property related data, so business development is dependent on their progress

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G-NAF

Geocoded National Address File (G-NAF)

- Co-ordinated through the PSMA
 - Under development since 1995
- Realised the need for a standard for address
 - Inconsistencies in address conventions
 - Duplication and confusion of localities
 - Lack of rural addresses with respect to roads or streets
 - ANZLIC and ICSM coordinated the development of AS/NZ 4819:2003 Geographic Information – Rural and Urban Addressing
- However, a key obstacle for the future is its maintenance and update! Requires local-state government property linkages



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Local-State SDI Partnerships

Existing SDI Partnerships

- Australia is well advanced in establishing partnerships for building SDI for property and address data
 - Property Information Project (PIP) Victoria
 - Property Location Index (PLI) Qld
 - Land Information System Tasmania (LIST)
 - West Australia Land Information System (WALIS)

Key Questions – What makes data sharing partnerships successful and what are the motivations from local level?

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Data Sharing

Spatial Data Sharing and Collaboration Issues

- Technical – standards
- Economic – value of data
- Institutional/Organisational
- Political

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Collaboration

Understanding the Collaboration Continuum



Co-operation

- No formal rules
- Minimal resources
- Independent power
- Vague goals

Co-ordination

- Few rules
- Limited resources
- Some interdependency
- Agency goals

Collaboration

- High degree of formality
- High resource commitment
- Interagency control
- Collective goals

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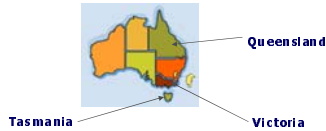
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Research Approach

Case Study Approach

In-depth analysis of existing property partnerships in three states

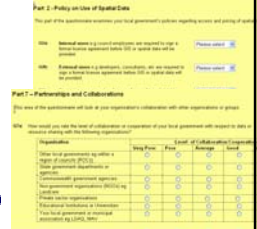
- Use initial framework to compare and contrast each partnership
- Questionnaire on motivations and business drivers that encourage data sharing
- Correlate the success factors with the differing partnership approaches



Scope of Questionnaire

Survey Design

- Capacity understanding – organisational size, GIS usage, ICT capacity, management support
- Policies on access and pricing
- Discovery and access mechanisms
- Maturity of spatial data
- Standards and interoperability
- Skills base
- Existing collaborations and business needs
- Success factors
- To 250 local governments (in progress)



Early observations

Motivations

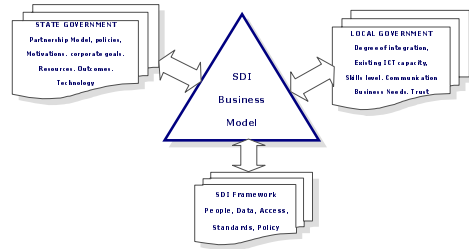
- Collaborations must contribute to the business solutions of local governments
- Early financial support important to assist in building capacity
- Equal share in outcomes important
- Solutions must be integrated
- Reciprocal access to data important

Capacity

- Capacity of local government varies significantly
- Stage of GIS development influences ability to collaborate
- Capacity building must be part of collaboration approach

Proposed Outcomes

SDI Business Model



Conclusions

Conclusions

- Building the SDI at national and state level continues to provide a challenge to governments
- Local government is the custodian of operational and strategic data sets and its importance as a partner is now being recognised
- Understanding collaboration and partnerships models are critical to sustaining long term data sharing
- We need to better understand local government capacity and business drivers
- Relationship management is the key!

Summary

Acknowledgements

Finally, I wish to acknowledge the contributions of Dr Abbas Rajabifard and Prof Ian Williamson and other members in the Centre SDI and Land Administration