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Interoperability in Australian Government E-Procurement - Strategy versus Reality

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Abstract

At the end of the 1990s the Federal and State Governments in Australia were amongst world leaders in the development of E-Procurement strategies. However, despite the development of clear and logical strategies, no government has as yet been able to achieve a comparable level of implementation, and as a result have (collectively and individually) failed to realise the desired (and promised) benefits for either government or suppliers. This report considers the background to E-Procurement in Government, then summarises the key aspects of interoperability (covered more comprehensively in other documentation) and assesses aspects of the separate solutions implemented by various jurisdictions, based on direct research; and identifies some of the limitations and therefore opportunities for future development. Due to length constraints, this report does not include a detailed exploration and comparison of governments in other countries.

Keywords

E-Procurement, interoperability, open trading, government, Australia, jurisdictions, Open Buying on the Internet (OBI), XML, Open Catalog Interface (OCI)

1 Background

1.1 E-Procurement in Australian Government

In 1997 the states of Victoria and South Australia appeared to be the Australian governments that were leading research into the development of E-Procurement solutions.

Victoria had focused their resources through the Department of Treasury and Finance, which managed the Victorian Government Purchasing Board. At the same time the South Australian Government endorsed a whole-of-government Procurement Reform Program that included an IT strategy that incorporated a range of electronic commerce initiatives.

Although the Victorian Government had clearly become the most advanced in terms of developing their strategies, and in early 1998 was ready to select an E-Procurement provider, they decided to embark on a process that engaged other States and the Federal government. It was Victoria's intention that by engaging other governments, particularly South Australia that had also made rapid advances towards selecting a provider, common or compatible solutions could be selected. Senior bureaucrats of both these governments (and others) understood that if they pursued different E-Procurement technology or business solutions,

suppliers (particularly small business operators) would be adversely affected by the need to support multiple solutions.

At this time all governments were becoming increasingly aware of the potential of E-Procurement and the many benefits that were not available in the paper based procurement environment. These benefits were broadly seen to include:

- A consistent ordering system that can interface with existing financial management systems across government;
- Provision of extensive management controls and reporting on purchasing and settlement;
- Access to complete audit trails that link transactions to individual purchasers and approvers;
- The ability to provide timely assistance that would guide buyers to existing contracted suppliers;
- Improved speed and accuracy in the exchange of business documents;
- Access to greater and more timely supplier information; and
- Significant productivity improvement through re-organising many business processes.

However, many of these potential benefits to government were largely dependent on:

- The same, or compatible systems, being implemented in all agencies within any single government;
- The creation of a critical mass of suppliers, (which was in turn largely dependent on having the same, or compatible systems, being implemented by other governments, so as to offer realisable benefits to suppliers).

The Australian Procurement and Construction Council (APCC) the representative body for Australian State and the Federal government on procurement noted these issues, and formed an expert sub-committee that developed the *National Framework for Interoperability in Government Procurement*.

It is interesting to observe that while the Commonwealth and State Governments moved to develop an agreed strategic approach local government was not represented. This was understandable, as there are a large number of local council bodies who are not directly linked to the APCC. However, an international perspective was gained by input from the New Zealand Government, which is a de facto member of the APCC and had access to the development and the right to provide input on these strategies.

1.2 The importance of E-Procurement

The National Office for the Information Economy (NOIE) in Australia estimated that the value of B2B E-Commerce for the year 2000 was estimated as US\$5 billion and they predicted a that it would contribute an average of 0.24% annually to Australia's growth over the next decade (On-line 9/5/03 NOIE, www.noie.gov.au). This compares with a 1997 Australian Government predication that by the year 2000 global transactions, for goods and services would be around US\$100-150 billion per annum. While longer range forecasts by Forrester Research and Accenture Analysis predict that global B2B E-Commerce will be worth US\$7 trillion by 2004.

E-Procurement is a significant component and driver of B2B E-Commerce transactions. The collective purchasing power of Australian Governments has the ability to significantly impact national E-Procurement strategies and activities.

1.3 E-Procurement in other governments

Globally, the governments of the more developed economies have been reviewing and implementing E-Procurement strategies since the mid-1990s. Few have developed and promoted an environment that promotes broad interoperability and open trading, preferring to focus on local initiatives and priorities. A possible exception is domestically in Singapore where the government takes a more centralist approach to guiding industry. But in the US the Federal government has many extremely large buyers (like the Department of Defense) who can dominate their market's and pursue systems and processes that suite their area of operation. While the American state governments have sourced separate often incompatible solutions. An exception has been where a number of states have collaborated to join forces in a single or linked marketplace.

The comparison of E-Procurement experience in other governments, to that in Australia, is worth far more than a few sentences and needs to be more fully addressed in a separate paper.

2 E-Procurement and interoperability

2.1 The Internet a ubiquitous business tool

The Internet by its basic design is an open, ubiquitous environment that theoretically can link any user with any other user. Those who developed the Internet understood this concept as its basic standards HTTP and TCP/IP could link any computer with any other and enable file transfer in a basic manner with FTP - this achieved a basis for true open communications. Shapiro and Varian (1999) identified that openness, as a strategy, was critical when no one organisation was dominant enough to dictate standards. Noting that openness occurred naturally when multiple products must work together, and that coordination in product design was essential. Possibly the most important point Shapiro and Varian made is that the idea of openness is to get the bandwagon rolling (to achieve what others describe as critical mass in the market).

The importance of open trading (interoperability) was also highlighted by Brunnermeier and Martin (2002) who identified that imperfect interoperability costs the US automotive industry approximately \$US 1 billion per year and delays the introduction of new models by at least two months. This potentially has a direct implication for government procurement.

2.2 What is Interoperability

Interoperability may be defined as a process that effectively links two or more systems (marketplaces or other service providers) or organisations in a partial or fully transparent manner (for users).

Bonometti et al (1999) explained the economic imperative for robust interoperability. Pointing out that if there were 100 non-interoperable systems each separately serving 1000 consumers we would be faced with 100 stovepipe communities. But, if all these systems

could freely trade we would have a community of 100,000 users, with one hundred times the value of any single system.

Open Buying on the Internet (OBI) was one of the first standards to support E-Procurement interoperability, transferring documents using the (EDI) ANSI X12 standard. However, with the rapid evolution of the Internet, diverse approaches to interoperability were developed and promoted. Often these approaches have been based around groups of trading partners, vendors, or developers.

In February 1999 Ariba, one of the better known E-Business solution providers, with major industry users, announced their support for XML - Extensible Mark-up Language (using the cXML version). Ariba claimed that XML was an open Internet-based standard for E-Commerce that would reduce on-line business trading costs and facilitate the exchange of content and transactions (On-line 2/9/02 Ariba, www.ariba.com). To assess this initiative XML needs to be understood, in particular that it is not a standard but a mark-up language, which can describe the content of a web page. XML uses a document type definition (DTD) to identify or tag data and provide it with a set of attributes. Ariba announced their support for cXML which meets their requirements, but other versions of XML exist and are promoted by other organisations.

Shapiro and Varian (1999) noted that the approach of establishing a full openness strategy by placing technology in the hands of a neutral third party has its difficulties. There is the question of whether the third party is really neutral, or just a cover operation for the organisation contributing the technology.

RosettaNet, another standards body that evolved in the US with major industry members, identified the problem of multiple flavours of XML in May 2001 and called for convergence of XML standards. This group noted that although many of the XML initiatives today are complementary, the sheer number of XML standards efforts is leading to confusion among implementers and key decision-makers alike (On-line 13/9/02 ITworld.com www.itworld.com).

Meanwhile OBI announced in December 2000 that they would join forces with the Interoperability Clearinghouse (ICH) to focus on delivering collaborative interoperability (On-line 13/9/02 OBI Consortium www.openbuy.org). ICH has a vision of promoting architecture independent solutions and greater IT success rates through improved alignment and managing the complexity between buyers and suppliers. With powerful US Government and corporate representatives, this group would appear to have significant influence (On-line 15/9/02 Interoperability Clearing house www.e-interop.co/about.html).

Another major E-Business provider, Commerce One announced in July 2001 a series of e-marketplaces, including T-Mart (Deutsche Telekom), Ignitemarketplace.net (formerly BT MarketSite), PeopleSoft Marketplace and Commerce One.net had linked through the Commerce One Global Trading Web (On-line 2/9/02 Commerce One, www.commerceone.com). However, rather than open trading, this initiative could be considered to be a linking of multiple (closed) marketplaces to form a larger closed marketplace.

Elsewhere in the market the Organization for Advancement of Structured Information Standards (OASIS), has developed the Information and Content Exchange (ICE) protocol. The first version of the ICE protocol was released in 1998, with input from Adobe Systems Incorporated, CNET Incorporated, Microsoft Corporation, Sun Microsystems Inc., and Vignette Corporation. The ICE protocol was developed to define the format and method of content exchange and by September 2001 final submissions were being sought for the ICE 2.0 specification (On-line 13/9/02 OASIS, www.oasis-open.org).

It therefore is almost a redundancy that the United Nations, through the United Nations Economic Commission for Europe (UN/ECE) established a Memorandum of Understanding with the International Electrotechnical Commission (IEC), the International Organization for Standardization (ISO) and the International Telecommunications Union (ITU) on E-Business. While this is yet another initiative to support and promote interoperability through electronic business XML (ebXML), it is interesting that the approach of the UN/ECE is often in support of self-regulation. This is reinforced by their approach to self-regulatory legal frameworks for Electronic Commerce rather than addressing and resolving transnational legal impediments.

2.3 The challenges of interoperability to E-Procurement

Open trading or the effective interoperability between trading partners (or various service providers) is much more than the definition and adoption of a consistent (or set of mapped and consistent) data exchange standards. Initiatives to define a standard, or set of standards have significant merit. But, the ability to exchange data does not also mean that the content and meaning of the data is consistent across solution providers (or individual trading partners); nor does it guarantee the availability of features from one solution to another.

In commenting on Scotland's development of a (an open) network service to make electronic information, learning and research available to all citizens, Nicholson (2000) identified interoperability as only one factor. Other issues included user needs and interfaces, collaborative data collection and development, content creation and maintenance, navigation, integration, access controls, metadata, standards and policy.

The challenges to interoperability can be summarised in three broad areas:

1. Technical issues
 - Service provider network architecture
 - User network architecture
 - Software requirements
 - Security systems and processes
2. Operational and other issues
 - Business processes
 - Marketing/financial models
 - Information identification standards
3. Functionality
 - Management of data and privacy
 - Legal
 - Language

- Culture

Details of these areas is not explored in this paper due to length

3 The Survey of E-Procurement in Government

3.1 The need to survey and review

The South Australian Centre for Innovation Business and Manufacturing (CIBM) is a government administrative group chartered to support and develop South Australian business. This group works closely with interstate and national colleagues in associated and support agencies. By mid 2002 CIBM were concerned by the impact of E-Procurement on (local) suppliers who wished to pursue trade with governments across Australia. To further their understanding CIBM commissioned an E-Procurement Interoperability Review that clarified the key aspects of interoperability and open trading.

CIBM were aware that Australia is a nation dominated by SMEs (Small, Medium Enterprises). The Australian Bureau of Statistics (ABS) has defined small business as a business employing less than 20 people. They further categorised small businesses to include:

- non-employing businesses - sole proprietorships and partnerships without employees;
- micro businesses - businesses employing less than 5 people, including non-employing businesses;
- other small businesses - businesses employing 5 or more people, but less than 20 people (On line 8/2/03 ABS, www.abs.gov.au).

To put the importance of small business into context it is worthwhile to note that the ABS estimated that there were 1,233,200 private sector small businesses (1,122,000 non-rural) in Australia during 2000-01, that represented 97% of all private sector businesses. These small businesses employed almost 3.6 million people, which represented 49% of all private sector employment. While the ABS noted that in 2000-01 there were 3,229 large business operators (On line 8/2/03 ABS, www.abs.gov.au).

The ABS also noted that small businesses tend to have the following management or organisational characteristics:

- independent ownership and operations;
- close control by owners/managers who also contribute most, if not all the operating capital; and
- principal decision-making by the owners/managers (On line 8/2/03 ABS, www.abs.gov.au).

Based on industry experience and the research of the ABS and other organisations it can be observed that in general, small business organisations are unlikely to have the time, money, skills, or internal technology to support multiple E-Procurement solutions. If small businesses are to implement E-Procurement, it is therefore likely that they will seek to implement one solution that will meet the requirements of all their trading partners.

CIBM were aware that small businesses tend to view "government" as a single entity; not necessarily wishing to understand or acknowledge that there are three distinct levels of

government (note the ABS lists 4 levels of government). Small business operators had also indicated that they did not wish to implement separate solutions to trade with different levels of government, between government departments and agencies, or between states.

It is relevant to note that since the late 1990s CIBM had been experiencing an increasing number of inquiries from small business operators that wished to know how to maximise their benefits if they implemented E-Procurement technologies. Responding to these requests CIBM had embarked on a series of activities to support small business, and in late 2002 decided to seek a review of E-Procurement activities in leading government administrations. It is noted that this initiative by CIBM was not the first or only review to consider the needs of small business Vis a Vis government E-Procurement, but it has provided some valuable contemporary input for this paper.

3.2 Why Government

It is valid to question why CIBM should consider government procurement as a key focus, when so much of Australia is dominated by small business operations. The main reasons are that in Australia:

1. The government sector (collectively) represents the largest single buying group across the country and in each state. The ABS listed all Australian government operating expenditure (excluding employee costs and depreciation) for 1999-2000 as \$60.6 bn (On line 8/2/03 ABS, www.abs.gov.au);
2. Because of their buying power, governments also have a key role in selecting business and technology standards, influencing not only their own market, but other areas where their trading partners operate;
3. Compared to many other industry sectors, government also has the financial and human resources to research and test both new technology and business processes; and
4. Government business processes are generally more rigorous than those of the commercial sector. (Therefore solutions that meet the requirements of government should at least match the audit and performance needs of commercial organisations - although functionality requirements will vary from sector to sector and organisation to organisation).

However, it is worthwhile to clarify the inaccurate perception of some small businesses, ie that government does, or should operate as a single entity. As in Australia, the public sector comprises all organisations owned or controlled by any of the four levels of government within the Australian political system:

- Commonwealth;
- State;
- local; and
- multi-jurisdictional.

According to the ABS, this grouping actually comprises some 5,500 separate organisations and employed 1, 307,600 people in 2000-01 (On line 8/2/03 ABS, www.abs.gov.au).

Despite its complexity and size, government presents itself as a manageable sector to pursue and promote E-Procurement, especially when compared to the mass of 1,122,000 private sector organisations.

3.3 The selection of survey respondents

In determining which organisations would be considered in the survey, CIBM consulted with the Australian Procurement and Construction Council (APCC) and other government agencies. It was generally recommended that the leading administrations from which most value could be gleaned were:

- Victoria, that had remained at the forefront of activities since the mid 1990s;
- South Australia, which implemented the first successful E-Procurement solution;
- Western Australia, which implemented a marketplace in 2000; and
- New South Wales, which implemented their solution in late 2002.

Collectively, these state administrations represent 80% of operating expenditure by state governments (excluding depreciation and employee costs), and 35% of operating expenditure by all governments.

It was subsequently decided to expand the survey to include Strategic E-Commerce Ltd (SEL) a vendor that has focussed on the local government sector. Each State and the Northern Territory has a number of local government areas, known variously as cities, towns, municipalities, boroughs, shires or districts. The generic local body is the council. In May 2001 there were 684 local councils, which represents a further \$7bn of operating expenditure and raises the survey to potentially covering an area that represents 47% of operating expenditure by all governments (On line 8/2/03 ABS, www.abs.gov.au).

SEL are the preferred solution for South Australian local Government (a total of 68 councils) and the Municipal Association of Victoria (representing a total of 78 councils). In late 2002 SEL had over 12 operational sites, with over 30 Councils committed to use their solution. However, it must be noted that SEL have neither a preferred or exclusive arrangement with all Australian councils.

3.4 Objectives from data collection

The objectives from the data collection process were to gather information that CIBM and organisations could use to:

1. Provide day to day advice to small business operators on the requirements to trade with the surveyed governments;
2. Aid in the development of E-Procurement promotion and awareness activities; and
3. Contribute to future strategic plans for promoting E-Business within the Australian business community.

3.5 Survey Methodology

3.5.1 Development of Questions

The questions that were asked of respondents were developed in-conjunction with the South Australian Government's Centre for Innovation Business and Manufacturing, other government representatives and industry consultants.

The survey questions were designed so as to maximise independent input from governments, which it was then intended to analyse and compile into a meaningful assessment of key issues.

3.5.2 Methodology

All selected jurisdictions were contacted and invited to complete an electronic version of the survey. Copies of the survey were made available by e-mail and additional information was provided to respondents where requested. The responses were compiled and additional information was sought to clarify and assist in the assessment of provided data.

4 Response and Review

4.1 Response qualification

The South Australian Department for Administrative and Information Services (DAIS) qualified their response by advising that they were unable to provide a whole-of government response and that their solution was only operational in their own Department with trials occurring in two others. It is also understood that in South Australia at least one agency has pursued a separate technology solution, but this is supposed to be compatible with the solution in DAIS.

Responses were provided from the following organisations:

- South Australia - Department for Administrative and Information Services (DAIS)
- Victoria - The Department of Treasury and Finance, Victorian Government Purchasing Board (VGPB);
- Western Australia - The Department of Industry & Technology (DoIT);
- New South Wales - Department of Public Works and Services (DPWS); and
- Local Government - Strategic E-Commerce Ltd (*provider of services*) (SEL).

4.2 Survey responses

Question 1 - For your Government's E-Procurement solution, please explain what a supplier has to do to develop an on-line catalogue for access by your government?

South Australia - Suppliers may:

1. Do nothing, as the system can send purchase orders by facsimile or email;
2. Develop/convert their own OBI compatible electronic catalogue;
3. Have a third party develop a catalogue on their behalf;
4. Choose to participate in a Marketplace (Supplier Hub, etc.) that has been proven to interoperate with the E-Purchase SA system.

Victoria - Suppliers may:

- 1 Upload their catalogue data onto GE ecXpress's catalogue; or
- 2 Have their electronic catalogue accessed via GE's catalogue

West Australia - Generally, a supplier would approach one of several Gem (the WA solution) endorsed Electronic Trading Associations (ETA). The ETA (for a fee) would then

assist the supplier to develop a catalogue that can connect to Gem. As an interim measure, also hosts supplier catalogues.

New South Wales - As part of their management service for state government agencies, DPWS has created a marketplace for all State Contract Board (SCB) contractors, and will also offer to extend the service for non SCB contracts. In general content is hosted by DPWS on the smartbuy application. The supplier can either directly key in item details via a web browser or upload content prepared off line in an XML format. In some instances catalogue content will reside in supplier hosted catalogues, accessed via "punchout" by smartbuy buyers.

Local Government - SEL provide suppliers with one catalogue through which they could trade on separate terms with all their customers.

Summary - The reviewed state government solutions were focussed upon coordinating purchasing within a jurisdiction, whereas the local government solution promoted by SEL was focussed on enabling suppliers. Both of these activities are required, a point acknowledged by both the WA and Victorian governments. However, despite rhetoric and a loose commitment to the APCC National Framework's principles there appears to be limited consistency, collaboration, or cooperation in developing or promoting these separate E-Procurement solutions.

Of particular concern is the fact that NSW has decided to implement a solution based on a proprietary standard. DPWS appears to have pursued the path of developing a closed government market that while allowing them to offer a value add to its client agencies. However, this approach would appear to have little regard for the broader strategic issues of E-Procurement, it also does little to create or share both economic and operational benefits with suppliers, particularly those who to trade with customers other than the NSW Government.

Question 2 - *What is the current volume and value of purchasing done by your government in all forms?*

South Australia - DAIS were unable to provide a figure for the number of purchase orders created by the state. However, the State Supply Board Annual Report for 2000/2001 stated that – “In 2001/2002 agencies (ie budgeted agencies and excluding prescribed public authorities) reported a total spend of \$1.6 billion on goods and services...”. This figure however is significantly less than the ABS figure of \$2.476bn for South Australian public sector operating expenditures (excluding depreciation and employee expenses) for 2000-01 (On line 8/2/03 ABS, www.abs.gov.au). The size of this statistical variation is however somewhat concerning.

Victoria - The VGPB advised that neither statistic was available. The ABS listed the public sector operating expenditures (excluding depreciation and employee expenses) for Victoria in 2000-01 as \$7.652bn (On line 8/2/03 ABS, www.abs.gov.au).

West Australia - DoIT advised that they did not collect statistics on the number of purchase orders across the jurisdiction. The WA estimate of expenditure is \$5 billion annually, of which \$1.5 billion is estimated to be purchases below the public tender threshold of \$50,000.

This estimate can be compared to the ABS listed public sector operating expenditures (excluding depreciation and employee expenses) for WA in 2000-01 of \$2.638bn. However, the ABS statistic including employee expenses for WA was \$6bn (On line 8/2/03 ABS, www.abs.gov.au). This statistical variation is another concern.

New South Wales - DPWS advised that the NSW Government purchases in the order of \$13.5 billion worth of goods and services annually. The break-up of this spend is broadly as follows:

- Capital assets (including maintenance) \$7 billion
- Goods and services \$6.5 billion

This estimate can be compared to the ABS figures, which listed the public sector operating expenditures (excluding depreciation and employee expenses) for NSW in 2000-01 of \$8,797bn (On line 8/2/03 ABS, www.abs.gov.au).

Like all other jurisdictions, DPWS was unable to advise of the number or value of purchase orders created.

Local Government - Strategic E-Commerce provided a response that quotes the Municipal Association of Victoria as stating the national (local government) sector turns over around \$15 billion a year with half spent on labour and the remainder on procurement. This is in accord with the ABS listed local government sector operating expenditures of \$15bn, however excluding depreciation and employee expenses this is listed as \$6.241bn for 2000-01 (On line 8/2/03 ABS, www.abs.gov.au).

Summary - Overall, none of the respondents were able to confidently detail either the number of purchase orders generated within their jurisdiction, or the value of these purchases. This inability while unfortunate, is in fact a solid example of why all jurisdictions need to implement E-Procurement. As without the sophisticated management information systems, that can be provided by electronic systems, governments at all levels remain impotent to realistically control and analyse their expenditures, and therefore best serve their constituents.

Question 3 - What is the current amount of purchasing done by your government from on-line catalogues?

South Australia - DAIS were unable to provide this statistic.

Victoria - The VGPB were unable to provide this statistic.

West Australia - DoIT were unable to provide this statistic.

New South Wales - DPWS were unable to provide this statistic, but estimated that it represented less than 5% of all purchasing and was worth less than \$50m.

Local Government - SEL were unable to provide this statistic.

Summary - The inability, or unwillingness of the respondents to provide an indication of either the number of purchase orders or the value of purchasing that is performed electronically is disappointing. It unfortunately creates a perception that either:

1. the implemented solutions have management information systems that are less sophisticated than promised and incapable of providing this data; or
2. the rate of implementation is not meritorious and its publication is not sought at this time.

Question 4 - *In your solution, where can a supplier's on-line catalogue be hosted?*

Summary - Responses to this question have been summarised in the table below.

SA	Vic	WA	NSW	SEL	Catalogue Hosted
					Government marketsite ONLY
					Independent third party provider ONLY
					Nominated third party provider ONLY
					Supplier's site ONLY
					Government marketsite And/Or Nominated third party provider
			✓		Government marketsite And/Or Supplier's site
	✓	✓		✓	Nominated third party provider And/Or Supplier's site
✓		✓		✓	Independent third party provider And/Or Supplier's own site
		✓			Government marketsite And/Or Nominated third party provider And/Or Supplier's site

Unfortunately the data gathered in this question is inconclusive, but there would appear to be some challenges in compatibility between the solutions, with WA, SA and SEL's solutions appearing to offer the best alternatives for suppliers. But when linked in with other data it becomes evident that while none of the solutions is overtly "closed":

The following may be interpreted from this table:

1. The indication by Victoria that suppliers need to connect via a nominated marketsite or supplier (ie a GE interface) may by default create a "closed" solution;
2. The government marketsite in WA may not allow a supplier to be accessed by other jurisdictions;
3. The fact that the Government marketsite in NSW is only for internal departments (and that it uses OCI) creates a "closed" solution.

Question 5 - *In your solution, who manages (has the ability to control the content and make changes to) the on-line catalogue?*

Summary - Responses to this question have been summarised in the table below.

SA	Vic	WA	NSW	SEL	Who Manages Catalogue
✓		✓		✓	Government
✓		✓		✓	Nominated third party provider
✓	✓	✓	✓	✓	Supplier

All respondents seemed to indicate that it was their preference that suppliers manage their own on-line catalogues. However, the flexibility of catalogue management by others could be useful in certain applications.

Question 6 - In your solution, what if any standard must be used to build the catalogue?

Summary - A summary of the specific responses to this question is detailed in the table below.

SA	Vic	WA	NSW	SEL	Catalogue Standard
✓				✓	OBI (Version Unspecified)
		✓			OBI 1.1
✓			✓		XML
			✓		OCI (Open Catalogue Interface - a proprietary SAP standard)
				✓	CXML
	✓				APCC National Framework (which supports OBI and XML)
	✓				UNSPSC is used for item categorisation

From this table it appears to indicate that most jurisdictions have adopted support for the OBI standard. To comply with the requirements of OBI catalogues must be:

- Profitable – have the capability to show specific goods and services (and prices) to specific buyers;
- Shoppable – provide buyers with the ability to search for goods and services; and
- Cartable – provide buyers with the ability to create a ‘shopping trolley’ full of goods which are then passed back to purchasing system for workflow approval prior to sending an order.

The single notable exception is NSW, which while verbally indicating a support for collaboration and consistency with other governments appears to have pursued a proprietary standard in OCI.

Question 7- *In your solution, what communications standards are used to communicate with the catalogue?*

Summary - A summary of the responses to this question is detailed in the table below.

SA	Vic	WA	NSW	SEL	Communications Standard
✓				✓	ANSI X12
✓					XML - RPC (proprietary data type definition)
			✓		XML - (SAP proprietary data type definition)
	✓				In accord with APCC National Framework (which endorses both OBI and XML)
		✓			OBI V1.1 (which utilises ANSI X12)

It is possible that those that indicated "in accord with APCC National Framework" and "OBI V1.1" did in fact actually support ANSI X12 or XML, but it would have been preferable for this point to be clearly stated.

Question 8- *In your solution, what business codes or other standards are used or required?*

Summary - A summary of the specific responses is detailed in the table below.

SA	Vic	WA	NSW	SEL	Standard/Code
✓	✓	✓	✓	✓	UN/SPSC
	Opt		Opt		UDDI
✓	✓		✓	✓	ABN
✓	✓		Opt	✓	Duns Number
	✓	✓	Opt		EAN

Opt - Optional

This appears to indicate a level of consistency across systems in using the UN/SPSC industry classification system, in lieu of the more recently developed UDDI. It is concerning that WA did not indicate that their system supported ABN numbers, (as this is understood to be a requirement of the Australian Tax Office) and brings into question the veracity of their data. The fact that most systems also supported the Duns numbering system would allow jurisdictions to trade with and identify non-Australian based organisations.

The limited use of EAN to identify items in catalogues would appear to indicate that jurisdictions are either using their own numbering systems, allowing suppliers to determine product numbering, or have limited understanding of the importance of this issue.

Question 9 - *In your solution, what messages or features do you currently support?*

Summary - A summary of the specific responses is detailed in the table below.

SA	Vic	WA	NSW	SEL	Standard/Code
	✓	✓	✓	✓	Request for quote
		✓			Quotation from suppliers
✓	✓	✓	✓	✓	Purchase order
		✓	✓	✓	Purchase order acknowledgment
✓	✓	✓	✓	✓	Delivery advice/shipping notice
✓	✓	✓			Purchase order changes/cancellation
✓	✓		✓	✓	Invoice

This tends to indicate a broad availability of practical business transactions. However, the availability of these various types of business transactions has little value, until we can assess the penetration of use both across jurisdictions and with trading partners.

Question 10 - *In your solution, what are the initial and ongoing costs for a supplier to connect to your systems (other than basic Internet connection charges) and to transact?*

South Australia - DAIS advised that there are no charges for a supplier to be registered on the E-Purchase SA system. However, the supplier must pay for their own catalogue development and hosting charges.

Victoria - The VGPB advised this was not applicable, and did not provide costs for the "required" connection through, or to, either of the specified GE services.

West Australia - DoIT advised there were no charges, if this applies to the GEM marketplace where suppliers may host their catalogue it seems like a generous offer. However, it is understood that establishing a catalogue specifically on GEM would preclude suppliers from offering their catalogue to other buyers (in other governments or the private sector).

New South Wales - DPWS have advised there are no charges for suppliers to be connected to its solution as it is part of the value added service it offers to client departments who purchase from State Contract Board contracts.

Local Government - SEL advised that the estimated costs for suppliers to host a catalogue and transact were about \$2,000 pa. This charge is for an open catalogue that is available to any buyer.

Summary - Based on the information provided, it would appear that the SEL solution offers a relatively cost effective option for small business that wish to trade with both government and the private sector. This would however be dependent on confirmation that the other solutions can interface with SEL. (It is known that this link is operational with at least the DAIS solution). But, this may not be possible with the standards or operations selected by other jurisdictions.

5 What's wrong with closed systems?

In an operational sense there is nothing wrong with closed systems: in fact they can offer significant functional and security benefits over multiple diverse and incompatible solutions.

A clear example for justifying the use of a closed system is the defence/security industry where suppliers are only interested in trading with specific customers - the question is how that closed system should be provided? The most functional option is a closed system built on open technologies and processes, this allows all trading partners to pursue their independent business strategies, but the closed environment can be supported by security systems that allow or bar access.

6 Conclusions

There is an appearance that certain aspects of the individual solutions selected by each of the jurisdictions reviewed support interoperability (or open trading). But based on the level of detail provided in survey responses these areas may well be superficial rather than substantial. It is also important to note that this report has not attempted to assess or review interoperability with the many private sector E-Procurement solutions and marketplaces.

In the rapidly evolving world of E-Business it may be less than prudent to race to conclusions, or hold too steadfastly to those conclusions. However, it is important to note that the following has occurred in relation to Government E-Procurement in Australia:

1. Australian Governments recognised the importance of E-Procurement and developed a strategic document in the *APCC National Framework*. Unfortunately cooperation appears to have been limited to the document, not solution implementation.
2. At this time, no Australian Government has achieved the level of cost savings or productivity improvements that were predicted as possible in the late 1990s.
3. The projects investigated have not been as successful as predicted, or else have not had the broad implementation necessary to provide more effective management information systems in procurement. As it is fairly implausible that all of the projects surveyed lacked the sophisticated reporting capabilities expected of modern E-Procurement systems.
4. From the review, Australian Governments have failed to act in a truly collaborative, consistent or cooperative manner in implementing E-Procurement solutions. It is necessary that individual governments forego their right to pursue disparate independent solutions, to best achieve mutual operational benefits.
5. By not effectively collaborating, Australian Governments have failed to use their combined market presence to promote E-Procurement for the general betterment of Australian industry.
6. Collectively Australian Governments have shown little true visionary leadership in E-Procurement, which is vital if Australia is to keep pace in the Information Economy with contemporary economies.
7. To gain the potential benefits offered by E-Procurement, all Australian Governments need a critical mass of suppliers who are able to exchange the necessary large volume of electronic transactions. The achievement of this critical mass in any single jurisdiction may not require the enablement of an extensive level of suppliers, as over recent years all jurisdictions have been embarking on strategic procurement reviews which has often led to a reduction in the number of suppliers. So theoretically many suppliers across government are common and therefore critical mass in one jurisdiction could lead to critical mass in others.

In summary, while each of the surveyed jurisdictions must be commended for attempting to implement E-Procurement the strategic aims outlined in the *APCC National Framework* have not been matched by the practical operational reality of individual solutions. Based on the information provided, E-Procurement by Australian Governments remains divergent and offers somewhat limited benefits to suppliers, except on a jurisdiction by jurisdiction (or agency by agency) basis and has as a consequence, as yet, failed to provide broad or meaningful productivity improvements in government or to suppliers. As a result Australian Governments have failed to promote a more competitive domestic market that could assist industry to springboard into international markets.

The successful future development of E-Procurement will require that governments investigate and adopt new business models that are built on collaboration and consistency to enable competition based on price and ability, not communications technology - linked to local jurisdictional requirements or preferences.

Survey respondents

South Australia - Department of Administrative and Information Services

Victoria - Department of Treasury and Finance, Victorian Government Purchasing Board
Western Australia - The Department of Industry & Technology
New South Wales - Department of Public Works and Services
Local Government - Strategic E-Commerce Ltd (*provider of services*)

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