



AUSTRALIAN
COMPUTER
SOCIETY

SUBMISSION

TO

**REVIEW OF THE AUSTRALIAN
GOVERNMENT'S USE OF
INFORMATION AND
COMMUNICATION TECHNOLOGY**

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INTRODUCTION

The ACS is the representative body for Information & Communications Technology (ICT) professionals, attracting a large and active membership from all levels of the ICT industry. As a member of the Australian Council of Professions, the ACS is the public voice of the ICT profession and the guardian of professional ethics and standards in the ICT industry, with a commitment to the wider community to ensure the beneficial use of ICT and to support and develop the local ICT sector.

In developing this submission, the ACS has drawn upon the direct expertise of its membership, particularly those who work in the development, supply and use of ICTs with the Federal Government.

It covers issues and recommendations associated with valuing ICT professionals, government purchasing practices, ICT project governance and accreditation of ICT professionals and the specific points raised in the Terms of Reference for the Review.

VALUING ICT PROFESSIONALS

ICT now underpins virtually all aspects of our work lives and national productivity. It is essential to the effective and efficient running of Government and Government agencies. As our reliance on ICT grows, so too does our reliance on the skills of the ICT professionals that design, plan, implement and maintain the business systems on which agencies depend for their operations.

However, many Government agencies still see ICT as a 'cost' rather than a productivity 'benefit'. Similarly, professionals are seen as back room 'techies' rather than vital business partners and drivers of change. The ACS believes that the Government must more overtly value the skills of ICT professionals not only as those that oversee and implement their ICT systems but also as an integral part of the business executive management team of the organisation.

Costs associated with implementation, management and maintenance of ICT systems are often amongst the most significant ongoing costs for agencies, however, representation of ICT professionals on agency Boards and Executive Committees is still limited. Often Finance or Corporate Affairs provide ICT advice by proxy. Yet ICT projects and the potential of ICT is often worth tens of millions of dollars.

There needs to be greater recognition that ICT issues are actually essential business and service continuity issues not simply technical add ons.

Government agencies are currently experiencing a significant shortage of ICT professionals and consequently rely heavily on contractors for their ICT skills. The result of this reliance is that when contractors move on, so too does their knowledge and skill base.

The accelerating international shortage of ICT skills will hurt governments operations more than the private sector. Until governments establish more

flexible remuneration arrangements, they will be vulnerable to acute skill shortages in areas of high demand. Additionally, young people expect more e-government services. As governments accelerate to meet this demand and cap costs, it will struggle to do so because it will not be able to retain or recruit ICT skills.

Exacerbating this issue is the lack of definition around the ICT profession. Unlike archetypal professions, like engineering, medicine, teaching and law, ICT is not subject to government regulation. One of the many downsides of this, is a lack of definition of what constitutes the ICT industry and those who work in it. Accordingly, there is limited national capacity to predict or plan ICT workforce requirements. The vagaries around the ICT industry and profession have not helped the industry compete against archetypal professions for young people to take up careers in ICT.

The ACS believes the Government should undertake an urgent and concerted effort to implement a whole of government professional development program for its ICT professionals encompassing career development, pathways to professional accreditation, retraining, recruitment and retention programs. This will go some way to better recognising, valuing and nurturing the essential ICT skills needed urgently by all Government agencies.

Taking a whole-of-government approach to delivering ICT skills doesn't mean developing a single ICT centre to service all Government agencies, but rather having specialist teams that can work across agencies, supplementing their in-house skills on, for example, SAP development and implementation. This would allow considerable expertise to be developed within these specialist teams that can be used to the benefit of all agencies rather than each agency trying to source its own specialists by cannibalising ICT staff from other departments.

Further the government should work with the ICT community and assess the benefits of undertaking a Regulatory Impact Statement (RIS).

GOVERNMENT PURCHASING OF ICT

In reviewing the use of ICT in Government, it is imperative that consideration also be given to the processes for procurement, since procurement practices invariably determine the standard and quality of ICT goods and services that are provided for the use by the Government, the level of competition to supply those goods and services and hence the price paid by Government.

The Australian Government is the largest single purchaser of ICT goods and services in Australia. Intermedium report¹ that the total value of the Government ICT purchasing costs for 2005/06 was over \$3 billion.

¹ http://archive.dcita.gov.au/_data/assets/pdf_file/0005/56930/Intermedium_Final_Report_03-05.pdf.

Issues around ICT procurement practices were raised as part of the ICT SME Joint Industry Government Working Party established in 2002/03 and the subsequent report issued by industry members of the Working Party in 2004/05.

Barriers to SME participation in Government Tenders addressed by the Working Party include:

- Incumbency bias associated with continuing with a current supplier rather than risking disruption of a new supplier;
- Contract size – SMEs do not have the resources or skills to take on very large contracts. This means SMEs are automatically excluded from projects they might otherwise have been able to tender;
- Contract aggregation is often done to assist in administration however in doing so can inhibit SME participation;
- Contract escalation – contracts are often extended without a further round of tendering which, in some cases, has allowed unrelated work to be tacked onto the end of an existing contract;
- Tender complexity which can substantially increase the cost of tendering;
- Tender bias in favour of known products or to suppliers that can meet specified vendor financial strength or prohibitive insurance requirements; and
- Procurement risk aversion that favours the larger multinational ICT providers.

Addressing these concerns to level the playing field between SMEs and ICT multinational suppliers, where possible, will, arguably, significantly improve the competitiveness of the tender process, price competitiveness for ICT services and level of innovation in services being offered to Government. Australia could look to the USA Federal scheme managed by the Office of Small Business Administration (Washington DC) designed to grow and support ICT SME. In summary, the scheme requires all Federal agencies to spend an agreed proportion of budget on SMEs and publish that expenditure in agencies' Annual Reports.

In raising this issue, the ACS acknowledges that the strength of Australian SMEs is predominantly in the ICT services market. Large multinationals often provide products that SMEs cannot offer, such as large hardware/software rollouts, infrastructure support, help desks etc, and so there are many areas where there is no direct competition between the two.

Intermedium's, SME Participation in Australian Government ICT Market report² indicates that SMEs gained around 22.5% of work by contract value in 2004/05 while 60.3% went to multinationals. The vast bulk of SME contracts (90%) were valued at \$500,000 or less.

However, the current statistics available from AusTender make it difficult to determine where SMEs could reasonably have tendered for a greater share of

² http://archive.dcita.gov.au/_data/assets/pdf_file/0005/56930/Intermedium_Final_Report_03-05.pdf

the work available than the 22.5% gained in 2004/05, given fairer access to the Government market.

While data can be collected from the individual Annual Reports of Government agencies, which are required to report contracts of \$10,000 and above, the ACS believes that AusTender should allow for better reporting and statistics collection around procurement. Better statistics on cost escalations, project extension and project scope creep and final cost variations in projects will allow better, more informed, procurement decisions and, in turn, a more competitive tendering process.

In addressing the issue of SME participation in Government tendering, it is worth noting that while large multinationals win most of the contracts, they often subcontract significant amounts of the work to SMEs, but at a much inflated cost to Government than if the work had been contracted directly to the SME. There is also anecdotal evidence that multi-nationals win tenders and comply with SME participation schemes, however, over the life of the project/service governments are tardy in validating whether the multi-national actually uses the SME as originally bid. Simultaneously, SMEs are often not in a position to speak up because of the risk of jeopardising future business with, or are reliant in some form on, the multi-national.

Risk and Procurement

While it is proper to apply sound risk management strategy when dealing with tax-payers money, the current level of risk aversion in Government ICT procurement can preclude SMEs offering solutions to tenders.

Government can improve competition for its ICT services tenders by ensuring its purchasing policies and practices allow Australian ICT businesses a genuine opportunity to respond to Government tenders.

Currently, tender requirements are often specified with an eye to a preferred result and so have a bias towards existing and known products, capabilities and providers as a means of reducing risk.

This invariably favours large multinational ICT providers and does not create an incentive to look to innovative product solutions offered by SMEs, cutting out potential competition and an important development opportunity for local ICT businesses.

The ACS strongly encourages the Government to implement purchasing practices and policies that will reduce the risk, perceived or otherwise, associated with SMEs and level the playing field so they can tender for Government business so increasing competition for the supply of ICT services to Government and at the same time, boosting local ICT business.

One possible way of reducing risk is to allow a small percentage (say 0.5%) of departmental procurement budgets to be dedicated to pilot testing of SME solutions to determine their suitability and effectiveness. This would manage

risk and the piloted solution could be made available to all Government departments who may have a need for it.

The ACS acknowledges that the role of departmental heads is to provide goods and services in the most efficient and cost effective manner and not necessarily to be concerned with speculative innovation. However to address this concern, AGIMO, for example, could oversee the pilot testing process and create a database of leading edge but feasibility certified Australian SME solutions for all departments to use.

SME Gateway

The ACS believes that models such as the SME Gateway can go a significant way to helping reduce the perceived risk for SMEs and Government purchasers.

The SME Gateway model allows SMEs and sole contractors to collaborate to gain access to larger contracts, so improving competition for Government tenders. The Gateway provides management, business development, technical and administrative tools for its members. This reduces the risk for Government by providing pre screened businesses and personnel by verify qualifications and solvency, providing a single point of contact for contract management, and ensuring a level of surge and demand change capacity and rapid supplier response, amongst other benefits.

The SME Gateway is able to pursue contracts consistent with the capabilities of its member companies by significant purchasers of ICT goods and services such as the Defence Material Organisation Support Services Standing Offer Panel, the Defence Support Group Consultancy Services Standing Offer Panel and the Australian Customs Service Panel for the Provision of ICT Contract Personnel.

ICT PROJECT GOVERNANCE

Computer World³ reports that a survey by the Information Systems Audit Control Association indicates that over 43% of all IT projects are killed off before they are completed because of changed business needs or because projects were not delivering the expected results. Costs of terminated ICT projects in Australia were estimated at \$1.4 billion for 2003/04⁴.

A recent article in The Age indicates that costs for the Victorian Government Myki transport ticketing project have blown out by 70%⁵.

ICT project governance is a significant issue and one where substantial savings can be made if appropriate project governance measures are implemented. Standards Australia is currently in the process of developing the Australian Standard for Governance in ICT Projects, AS 8016, which sets out

³ <http://www.computerworld.com.au/index.php/id:943017843>

⁴ <http://www.australianit.news.com.au/story/0,24897,20736552-15382,00.html>

⁵ <http://www.theage.com.au/articles/2008/05/26/1211653938463.html>

a series of principles to be applied to ICT projects based on responsibility, strategy, acquisition, performance, conformance, and human behaviour.

The ACS believes that when released, AS 8016 should be applied to all ICT projects implemented by all Government agencies.

Project governance can also be improved by dividing large projects into manageable units and ensuring ICT procurement officers and those who contract to work on Government ICT projects are appropriately accredited.

- For agencies where it is not already standard practice, large tenders should be broken into manageable activities, each having a deliverable and defined outcome. This lends the project to continuous quality assurance in terms of costs, timeliness and outcomes. The outcomes then become the inputs to the next stage of the project.

Dividing large projects into, say, \$5M, \$10M or \$15M modules (depending on the size of the project), with reporting and analysis requirements at the completion of each module, will greatly reduce the risks associated with cost and time blow outs and failure to deliver required outcomes.

The Singapore Government, for example, worked with the ICT community and developed an ICT Project Management standard. To do business with government, public servants and industry personnel are required to be qualified in the standard. The public/private procurement process is therefore conducted using a common language and process. Singapore also exports this product to China earning revenue and building further business opportunities.

The ICT community and the Governments of Australia continue to import ICT standards and frameworks, for example, ITIL, ICDL, Prince2 and SFIA. The Governments of Australia are encouraged to innovate and lead in this area like those in England, Singapore and Finland.

- Accreditation of ICT procurement officers and ICT professionals who tender for or work on Government ICT projects reduces risk of project failure and improves risk management in procurement decisions. Government purchasing processes, oversight and management of ICT projects are only as good as the capability of those undertaking the work. The ACS believes the Government should set an example and lead the way for industry by ensuring its ICT procurement and other ICT professionals are independently accredited as a means of reducing and better managing risk, in the same way as Engineers, Architects and Accountants, for example, are accredited.

The Government should apply the same risk reduction standards that it applies to engineering and other infrastructure projects by adopting the following ICT procurement and project management policies:

- major ICT projects should be staffed with qualified and accredited ICT professionals;
- companies tendering for major ICT projects should identify key project staff and their ICT qualifications and accreditation credentials and, like the UK Government, engage only those people who have been independently accredited;
- establish career support programs to assist ICT professions working for the Government to attain appropriate accreditation; and
- introduce recruitment processes for senior Government ICT roles that address ICT professional accreditation.

SPECIFIC AREAS UNDER REVIEW

The following sections provide input to the Independent Review on the basis of specific areas requested for consideration in the letter requesting input.

1. Where do you think that aggregation or standardisation would drive economies of scale benefits for the Australian Government.

Standardisation

The ACS believes that the Government could improve its ICT operations by introducing standardisation on a number of fronts.

Interoperability between Departments

ICT is the key tool underpinning most Government and business services and as our reliance on ICT continues to grow, so too does the need for Government systems and services to integrate seamlessly to share information between Government agencies, with citizens and with business.

The Australian Government Information Office has developed an Australian Government Interoperability Framework to help achieve interoperability between Federal Government agencies through alignment of business processes, information, and technical components.

The ACS believes that implementation of this interoperability framework should be a key priority for the Government as a means improving productivity, reducing duplication, streamlining operations, improving efficiency and standardisation of Government services and reducing costs.

The Australian Government Interoperability Framework can be introduced without affecting the technologies in use within individual departments or constraining interactions with non-government agencies. As part of its interoperability strategy, the Government should specify a minimum level of interoperability that must be achieved for any new product or new version of existing products.

IT Infrastructure Library

Introducing the Information Technology Infrastructure Library (ITIL), as the standard for ICT service management, should be considered by the Government for all its departments and agencies. The ITIL framework was

developed in recognition of the increased reliance of business in ICT system for all aspects of their operations and the subsequent increased requirement for high quality ICT services.

The current version of ITIL, ITIL v3, provides a framework of best practice to manage ICT operations and services by aligning business and ICT strategies and needs. ITIL v3 provides a comprehensive set of guidance frameworks for Service Strategy, Service Design, Service Transition, Service Operation and Continual Service Improvement.

ITIL can bring consistency within and across departmental services offerings, improve service quality and ICT governance.

The Victorian State Revenue Office has reported⁶ that since achieving ITIL compliance in 2005, it has reduced its ICT budget by 16.5% whilst improving its service capabilities and clarifying its ICT vision.

Adopting ITIL would have clear benefits for the Government in terms of aligning business operations and ICT project and procurement practices and providing consistent high quality services across all departments, giving greater visibility to projects and enforcing closer teamwork between business and ICT sections of departments.

It will assist in removing duplication and the multiplicity of ICT management practices and duplicated projects and other ICT efforts that have built up within Government departments over the years resulting in savings in cost and increased productivity.

Aggregation

The scale, complexity and diversity of ICT requirements across all Federal Government departments and agencies is significant and reflects the equally diverse functions and services provided by government and, importantly, the needs of the customers and citizens they service.

Aggregation of services across departments must be closely considered in terms of these parameters. While clearly there will be some areas where it is feasible, such as data management centres, infrastructure, data communications links, redundancy centres, for example, it may not be viable for other areas and may result in a reduction in the breadth and quality of services currently available.

While ICT requirements and use may vary across Government departments, many use common software and each department devotes resources to supporting that software.

The ACS believes productivity benefits could be achieved by using centralised web-based interfaces and implementation for commonly used

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<http://www.zdnet.com.au/insight/software/soa/Who-s-taking-the-ITIL-bait-/0,139023769,339272527,00.htm>

software across all departments. This would allow consolidation of capability through a centrally managed specialist support team with responsibility to maintain commonly used software.

Shared data centres are another area of aggregation worth investigating. Individual departments don't need to have their own servers. Shared data centres can become centres of excellence specializing in internet facing applications, enterprise applications, file and print servers, for example. Development facilities and test environments can also be shared between departments.

In suggesting aggregation of data centres the ACS notes that some departments have higher security and data restriction needs than others and these needs would need to be taken into account in terms of the logistics associated with this proposal.

2. Whether Government requirements inhibit the use of commercial off the shelf products without customisation.

ACS ICT professionals working with the Government report that virtually all major enterprise level systems are implemented with some level of customisation and to a certain extent, the differing services provided across Government department and agencies may warrant some customisation. The goal should be to reduce customisation to only that which is necessary to service a particular department's needs where those needs cannot be fully met by the underlying features of the software package.

ACS members advise that the costs of customisation of commercial off the shelf products often far outstrips estimates provided for in the original project specifications. Piloting can help more accurately assess the true costs of implementation and avoid underestimates and project over-runs.

Improving standardisation across departments and using centralised web-based implementation and support for commonly used software and platforms will go a significant way to reducing unnecessary customisation of commercial off the shelf products because it will be controlled, implemented and updated from a central location.

In addition, development of a central repository for software developed or customised by departments, so it can be made available for use by other Government agencies, would help minimise customisation. The repository could be developed and managed by AGIMO.

3. How would you rate the Australian Government Compared to your other government clients elsewhere in the world or your Australian private sector, state and local government clients.

The ACS is affiliated with sister Societies around the world. The ACS believes that the Australian Government has been steadily falling behind in the area of ICT over the past decade. This submission provides examples drawn from the other nations' governments.

4. Whether there are any key best practice techniques which the Australian Government has but hasn't fully deployed or are used elsewhere in Australia or internationally which the Australian Government should adopt.

AGIMO has developed proposals and frameworks for a number of key best practice techniques that have not been fully implemented.

Guidelines and frameworks on Interoperability between Departments, the ICT Investment Framework, e-Government Strategy; ICT Management Consultants and E-Procurement Guidelines for Agencies are a few of the publications released by AGIMO that have not been as fully deployed as they could.

In providing input for this review, ACS members working in the Government frequently discussed the high quality and usefulness of the frameworks, tools and guidelines published by AGIMO and considered that their wider adoption across Government agencies would lead to improvements in productivity and cost savings.

Use of Intellectual Property for ICT Goods and Services

Government agencies often acquire IP as the default position when they purchase ICT goods and services. Since many do not use the IP, the future value it might have generated for the Australian ICT sector and Australian economy is lost.

The developer of the IP cannot use it to invest further or reuse it for future customer contracts. They cannot build on the product to engage new customers or develop enhancements that might lead to new products.

The ACS believes that ownership of IP should not be the default position of Government contracts for ICT goods and services.

Departments should encourage negotiation around the rights to the IP to obtain a better price for the work they commission.

In 2000, the Department of Communications, Information Technology and the Arts produced *'The Commonwealth IT IP Guidelines'*, recommending that Commonwealth agencies only acquire the IP necessary for achieving their corporate missions and to be alert to opportunities for financial savings (through not acquiring IP rights). However, in general, this approach seems not to have been taken on board by Commonwealth agencies, with most retaining the IP generated from work commissioned or funded by them.

TERMS OF REFERENCE

2a How ICT has benefited the operations of the government and how that benefit is measured.

ICT is credited with underpinning productivity across all sectors of our economy and in particular with facilitating 75% of the productivity gains in the services and 85% of the productivity gains in the manufacturing sector over the last two decades⁷.

The ACS believes that Government, as a major service provider, would have benefited to a similar degree in terms of productivity increases. These productivity increases have been highly visible in areas such as the Australian Taxation Office, Centrelink and Medicare which have used ICT to transform their business models and services to the community, suppliers and providers by maximising the use of on-line services that have reduced staffing, done away with queues, reduced paper based transactions and the need for large numbers of 'shop fronts'.

Clearly, these benefits and service improvements would not have been possible without ICT.

Implementation of e-government services is still in its infancy and consequently there are still many areas that can be streamlined and where significant productivity gains can be achieved.

The benefits of ICT to the Government need to be measured at three defined points:

- the benefits achieved from implementing individual projects – expected and achieved - by undertaking Net Present Value, Internal Rate of Return or Return on Investment and Total Cost of Ownership analysis for example;
- the benefits that accrue to individual departments that put ICT projects into place – as measured by the Return on Investment and synergies achieved from implementing multiple projects, revenue benefits or cost savings achieved, per unit of output costs, marginal product or marginal cost changes perhaps benchmarked with other departments that provide similar services. The AGIMO ICT Investment Framework is relevant here; and
- the benefits and productivity gains that accrue across the Government; that is the whole-of-Government productivity gains achieved as measured periodically using economic modeling techniques to determine the aggregate productivity gains across all Government agencies.

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http://www.dbcde.gov.au/_data/assets/pdf_file/0020/37154/05020036_ICT_and_AustralianProductivity.pdf

2b The adequacy of current coordination of ICT business planning and investment decision making processes and the options for and benefits of a stronger ICT framework and/or greater coordination if current arrangements are inadequate.

AGIMO has taken a significant step in helping Government agencies better coordinate their ICT planning and investment decisions by publishing its ICT Investment Framework to help improve Government return on its investment in ICT through better planning, management and evaluation of ICT based projects.

In addition, the Department of Finance has published a review of the Gateway process, "Gateway Review Process Lessons Learned", examining areas of:

- Business Case and Project Planning;
- Stakeholder Management;
- Project Staffing;
- Governance;
- Risk Management;
- Sourcing Strategy; and
- Financial Management.

Implementing the recommendations of these reports widely across all Government Departments, as standard required practice, will help improve project development, management and governance.

2c The existing ICT investments of agencies and whether there are opportunities to maximise the use of new and existing ICT investment in order to meet the Government's broader objectives.

Implementing AGIMO's Australian Government Interoperability Framework and a standard service management framework such as ITIL will have a considerable impact on maximising the opportunities available from current and new Government ICT investments.

Establishing a minimum standard of interoperability across all Government departments will allow greater exchange of information, collection, aggregation and manipulation of data and collaboration without the need to necessarily replace current ICT systems employed by individual agencies.

Creating a central repository for software developed or customised by departments so it can be made available for use by other Government agencies will also help maximise use from existing and new ICT investments. In keeping with this proposal, it should include a test bed for testing interoperability or unproven technologies.

To make the best use of the significant Government investment in ICT, all agencies should have an exhaustive inventory of their ICT systems, hardware, software and its capacity and capabilities. Where this does not exist, it should be developed as a priority.

2d The possible duplication of ICT systems (such as financial and human resource management) across government agencies, whether opportunity exists to consolidate existing or new systems and what form any consolidation should take.

To determine the extent of possible duplication and potential for consolidation, the ICT business architecture for each department should first be documented and, as recommended in question 2c, an exhaustive inventory of ICT systems, hardware, software and its capacity and capabilities be prepared.

Once this is done, it will be possible to understand and look for similarities and duplication across departments and determine opportunities for consolidation.

The shared services models being pursued by the Victorian and Queensland Governments should be examined for their applicability to Federal Government agencies⁸.

ACS ICT professionals working in Government suggest that other areas where consolidation could readily be achieved are:

- bandwidth and network infrastructure;
- integration of public portals/internet gateways across departments;
- document management, ministerial and other letter tracking;
- grants management;
- data centres;
- HR and Finance.

2e The duplication of business processes across and within agencies and the effects this has on the costs to government and the quality of service delivery.

The information provided under points 1 to 4 and 2a to 2d apply to this question.

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[http://www.dtf.vic.gov.au/CA25713E0002EF43/WebObj/VicGovSharedServicesIndustryInformationSession18June2007/\\$File/Vic%20Gov%20Shared%20Services%20Industry%20Information%20Session%2018%20June%202007.pdf](http://www.dtf.vic.gov.au/CA25713E0002EF43/WebObj/VicGovSharedServicesIndustryInformationSession18June2007/$File/Vic%20Gov%20Shared%20Services%20Industry%20Information%20Session%2018%20June%202007.pdf)

2f Barriers posed by existing legacy ICT investments across agencies and the potential for more consistency in new investments.

The information provided under points 1 to 4 and 2a to 2d is relevant to this question.

ACS members advise that new Government ICT investment proposals and projects often include provision for the decommissioning of legacy systems. However, the complexity of migrating from these legacy systems is often not captured fully in business cases and consequently the cost of decommissioning is underestimated.

This can lead to cost blowouts for projects or to legacy systems not being fully decommissioned and new layers of code structure or architecture being added to maintain legacy system functionality and ensure it integrates with new systems. The result is not only a compromised system but additional maintenance costs to cover both the legacy and new systems.

Key areas that are regularly not adequately addressed when dealing with legacy systems are:

- data rectification, transformation and migration to new systems;
- protocol and interface issues; and
- ongoing maintenance issues and reducing availability of a skills base to maintain legacy systems.

A key area for Government to consider for legacy systems is that the skills to keep these systems going are becoming increasingly scarce and consequently more expensive to obtain. In addition, there is often little documentation available on these systems, they run on outmoded development languages and technologies and they are often not suitable for e-business functions.

The ACS believes the Government should identify and develop a controlled phase out strategy for its legacy systems.

2g How agencies manage their staffing requirement for ICT projects, whether there are opportunities to improve the efficient use of staff and contract resources and whether competitive pressures are driving up costs.

ICT project staffing and governance were key areas covered in the Gateway Review Process Lessons Learned⁹.

Areas addressed were:

⁹ http://www.finance.gov.au/gateway/lessons_learned.html

- transfer of skills from contractors to in-house staff where ever opportunity permits;
- project skill sets, key resource requirements and tasks and known skill shortages should be documented by agencies to inform their recruitment plans and staff retention and training strategies;
- agencies should look to recruit from outside of the public sector for resourcing of key projects;
- recruitment and resourcing strategies should be regularly updated; and
- project managers should be appropriately qualified and dedicated to the project and have the appropriate authority to access resources and deliver on the business case.

Project staffing recommendations associated with skills development and transfer and ensuring ICT practitioners hired are professional and have the skills to do the jobs they have been hired for are, in the view of the ACS, vitally important for the success of projects and good governance.

ACS members report that there is a large reliance on ICT contract workers to undertake ICT projects in for the Government. This invariably means that instead of building a skilled, collaborative, permanent teams, projects are resourced based on the availability of appropriate skills. This approach leads to cost blow outs since project work groups are assembled and disassembled once the project is finished and do not get the opportunity to develop the synergies and core competencies that comes from familiarity.

The oversight and management of ICT projects is only as good as the capability of those undertaking the work. The ACS believes the Government should set an example and lead the way for industry by ensuring its ICT professionals are independently accredited as a means of ensuring they have the skills and level of professionalism needed to undertake their roles, in the same way as Engineers, Architects and Accountants, for example, are accredited.

The Government should apply the same risk reduction standards that it applies to engineering and other infrastructure projects by adopting the following ICT procurement and project management policies:

- major ICT projects should be staffed with qualified and accredited ICT professionals;
- companies tendering for major ICT projects should identify key project staff and their ICT qualifications and accreditation credentials and, like the UK Government, engage only those people who have been independently accredited;
- establish career support programs to assist ICT professions working for the Government to attain appropriate accreditation; and
- introduce recruitment processes for senior Government ICT roles that require professional accreditation.

Additionally, the ACS believes the Government needs to engage in better skills foresighting for its ICT skills. Rolling 3 to 5 year skills needs should

be undertaken as part of the annual reporting and business planning cycles. This information could then be channeled to AGIMO, higher ICT education providers and made available to current ICT professionals employed by the Government to create a better awareness of where the Government's ICT skills demands are going to be in the medium term. In turn, this will assist ICT professionals in planning their careers and future training requirements.

2h The existing ICT governance framework that guides the Australian Government's use of ICT to deliver government outcomes.

See responses to points 1 to 4 and 2a to 2g for references to appropriate ICT governance frameworks, particularly those developed by AGIMO. ACS ICT professionals report that these AGIMO documents are useful and should be implemented more widely in Government agencies.

2i The possible role of the Department of Finance and Deregulation or a similar body in contributing to more efficient and effective use of ICT across Government.

The ACS believes that AGIMO is the appropriate body to fulfill this role, however needs greater powers to ensure its frameworks and guidelines are implemented across all Government agencies.

RECOMMENDATIONS

The ACS puts forward the following recommendations for consideration by the Review.

1. The Government should more overtly value its ICT professionals by putting into place a whole-of-government professional development program encompassing career development, pathways to professional accreditation, retraining, recruitment and retention strategies.

Professional development and recruitment strategies should be based rolling 3 to 5 year ICT skills forecasting assessments undertaken by all departments as part of their annual planning process. A key outcome should be increasing in-house Government ICT capabilities and reducing reliance on contract ICT labour.

2. The Government must ensure that ICT is an integral part of its business planning cycles and the implementation of ICT programs are embedded into the general business processes of departments and have direct representation on Boards and executive committees. An understanding of the impacts of ICT is essential for Boards and executive committees.
3. The Government should develop specialist ICT development and implementation teams (for example in SAP, Seibel etc) that can work

across agencies implementing, upgrading and maintaining systems so that these specialist skills can be shared across agencies rather than each agencies trying to source its own specialists by cannibalising staff from other departments.

4. The Government should more proactively implement measures to level the procurement playing field between SMEs and multinational ICT suppliers to improve competition and innovation around its ICT procurement spend by:
 - Implementing a procurement pilot testing program to reduce the perceived risk associated with using SMEs by allowing departments to use a small percentage (say 0.5%) of their ICT procurement budgets for piloting SME solutions for their suitability and effectiveness. Those that are feasibility certified could then be loaded onto a database for all departments to use.
 - Put into place purchasing practices that support and encourage SMEs to use the SME Gateway model that allows them to collaborate to gain access to larger contracts;
5. The Government should actively move to improve governance of ICT projects by:
 - implementing AS 8016 when it becomes available;
 - where it is not already done, breaking large tenders into manageable modules, each having a deliverable and defined outcome to improve quality assurance and cost control. Each module would then become an input to the next stage of the project;
 - implementing widely the recommendations on governance, risk management, sourcing strategies and project planning from the Department of Finance publication "Gateway Review Process Lessons Learned.
 - implementing similar risk management techniques for ICT projects to those that apply to engineering and other infrastructure projects by:
 - ensuring major ICT projects are management and staffed by appropriately accredited ICT professionals;
 - ensuring companies tendering for major ICT projects identify key project staff and their ICT qualifications and accreditation credentials;
 - establishing career support programs to assist ICT professionals working for the Government to attain appropriate accreditation; and
 - introducing recruitment processes for senior ICT roles that address professional accreditation.
6. The ACS believes the Government could improve productivity in its ICT operations by:

- Introducing an interoperability framework across all Government agencies as a key priority (eg the Australian Government Interoperability Framework by AGIMO);
 - introducing a standard ICT service management framework such as the Information Technology Infrastructure Library to improve service quality, remove duplication and multiplicity of ICT management practices and align business, ICT project and procurement practices;
 - making greater use of centralised web-based interfaces and implementation for commonly used software across all departments to allow consolidation of capability via centrally managed support teams;
 - Introducing shared data centres, development centres and test beds across departments, taking into account particular data security needs of departments; and
 - Making better use of piloting and testing of implementations to more accurately assess the true costs of implementation and avoid budget underestimates and project cost over-runs.
7. Reduce the current level of software customisation and duplication by developing a centralised repository for software developed or customised for departments so it can be made available for use by other Government agencies. This could be developed by AGIMO and be part of the database of certified SME solutions recommended in recommendation 3.
8. Best practice techniques, frameworks guidelines developed by AGIMO could achieve significant savings for Government and should be more fully implemented by all Government agencies. Examples are the Australian Government Interoperability Framework, ICT Investment Framework, e-Government Strategy, the ICT Management Consultants and e-Procurement Guidelines.
9. In keeping with the Commonwealth IT IP Guidelines, Government agencies should acquire only that Intellectual Property that it needs to support its business. Ownership of Intellectual Property rights should not be the default position of Government agencies for ICT innovations developed for them.
10. The productivity benefits that accrue to Government from using ICT goods and services should be measured at three defined points:
- the benefits achieved for implementing individual projects at the project level in terms of Net Present Value, Return on Investment, total cost of ownership or some similar method of measuring the reasons for implementing a project;
 - the benefits that accrue to individual departments from putting ICT projects into place – return on investment and synergies achieved across the department from implementing ICT based projects; and
 - the benefits and productivity gains that accrue across the whole of Government as a result of ICT.

11. To assist in determining areas of duplication and the potential for consolidation, ensure all agencies document their ICT business architecture and conduct an exhaustive inventory of ICT systems, hardware, software, its capacity and capabilities.

Areas for potential consolidation include:

- bandwidth and network infrastructure;
- public portals;
- document management, ministerial and other document tracking;
- grants management;
- data centres; and
- HR and Finance.

12. Better business casing and governance should be introduced around decommissioning or maintaining legacy systems to ensure that all costs are adequately captured including:

- adequate project scoping to cover data rectification, transformation and migration to new systems;
- protocol and interface issues between legacy systems and new systems; and
- ongoing maintenance costs and skills base to maintain legacy systems.

The ACS recommends the Government develop a controlled phase out program for its legacy systems.