OPEN SOURCE SOFTWARE AND THE AUSTRALIAN GOVERNMENT

A key-note speech by Brian Catto (Director – Governance and Policy Branch, Australian Government Information Management Office) at the Open Source Developers Conference (Canberra 18th November 2011)

Firstly I would like to acknowledge the Ngunnawal people, the traditional owners of the land we're meeting on, and pay my respects to their elders, past and present.

My presentation today will cover four areas:

- I'll start with some background information about AGIMO and the programs that we administer, to show that the open source program is just one of many programs that interact with each other. The purpose of this is to show the breadth of work being undertaken by AGIMO, and, given that many of you are from the private sector, you may not have had visibility to this before. What I will be covering is not everything that AGIMO is doing, but it will give a flavour for the focus of AGIMO
- Then I'll move onto the opportunities that open source software offers, and also the considerations that agencies must keep in mind when making a decision regarding adoption of an open source solution.
- After this I'll provide a brief glimpse of the international landscape; and
- Lastly, I will describe the Australian Government Open Source policy, as well as touching on current use within Government, and some predictions for the future.

Part 1: AGIMO Background

The Australian Government Information Management Office (AGIMO) is a business unit of the Department of Finance and Deregulation. It's purpose is to:

- Foster the efficient and effective use of information and communications technology (ICT) by Australian Government departments and agencies;
- Provide advice, tools, information and services to help Australian government departments and agencies use ICT to improve administration and service delivery; and
- Work with governments and other bodies at the local, state, national and international levels

Leadership – AGIMO is responsible for developing whole of government ICT strategies such as the cloud computing strategy and the draft ICT Strategic Vision that was released for comment earlier this year. Additionally AGIMO coordinates governance of ICT which entails roles like chairing the Gov 2.0 Steering Group and

creation of a whole-of-government strategic ICT workforce plan (with the Australian Public Service Commission (APSC))

Procurement – AGIMO conducts co-ordinated ICT procurement on behalf of government. This includes panel arrangements, such as for desktop hardware, ensuring all agencies get the best price, regardless of their size, and licensing arrangements, such as the Microsoft volume sourcing agreement.

Operations – AGIMO is responsible for the Intra Government Communications Network (ICON) which is a fibre optic cabling system providing dedicated point-to-point links for Australian Government agencies across the ACT. Another operational example is FedLink, which provides secure communications between Australian Government agencies. AGIMO also administers the .gov.au domain naming regime across Australia, and administers directory.gov.au which is a guide to the structure, organisations and key people within the Australian Government.

Policy – AGIMO has developed a range of policies in the ICT space, including, but not limited to:

- ICT Investment Management – review benefits, costs and risks before major ICT systems are procured – to select the most cost effective appropriate solution
- Internet Gateway Reduction – reducing Australian Government gateways from over 100 to the minimum practical to maximise efficiency, reliability and security
- Data Centre Strategy – consolidation of data centres to reduce costs and environmental footprint of Australian Government ICT usage
- ICT staff teleworking policy – to improve ability of staff to work remotely, which is particularly useful to attract staff in rural areas; to help disabled employees and to help staff on graduated return to work
- IPv6 transition – ensuring governments and citizens can communicate under the new internet protocols
- Open Source Software – which I will discuss in detail later; and
- Customisation and Bespoke development policy which aims to reduce the percentage of customised and bespoke solutions; standardise government business processes and make savings through COTS investments

Advice – AGIMO provides advice to agencies across a wide range of topics, including:

- Australian Government Architecture (AGA) framework – which provides a common language for agencies in the delivery of cross-agency services; supports identification of duplicate, re-usable and sharable services; and provides standards, principles and templates to ensure cost effective ICT

- Better Practice Guides – which assist the APS to quickly improve their understanding of a range of issues related to online services
- Security and Authentication Standards – that can be applied across the Australian Government, and states and territories.
- Annual Survey of Australians interactions with government – to determine satisfaction with services in various channels and opportunities for improvement
- Web guidelines – to ensure that government websites meet international accessibility guidelines, ensuring all Australians have access to Australian government information.
- My scope at the moment is the areas of Open Source Software; IPv6; Cloud and the AGA

Service Delivery – AGIMO administers a number of web sites on behalf of the Australian Government, including:

- Australia.gov.au – the online entry point for government information
- Data.gov.au – online repository of public sector datasets
- Govdex.gov.au – secure online collaboration site for government
- Govspace.gov.au – online social media platform; and
- The AGIMO blog, which is a govspace site (agimo.govspace.gov.au) which is a useful place to visit to keep up to date with new policy or events released by AGIMO. For example, later today the blog will feature details of the release of version 3 of the Australian Government Architecture framework, which is being launched in Brisbane this morning.

Part 2: Open Source Software

Open source software is available to view, use, modify and redistribute under varying licensing obligations. Generally the software is subject to copyright, has a variety of sourcing options and may have a cost associated with it. Examples include: Firefox, Linux, Apache, MySQL etc

Opportunities –

- Usually there are no upfront costs with open source software (OSS).
- OSS encourages a competitive support services market – because the source code is available, it is possible for any software organisation to support it. In fact, the customer can chose to support it themselves.
- OSS encourages collaboration, with any user able to improve the product. A collaborative approach fosters innovation.
- Generally there are less restrictions on software users
- Users can take direct control of software maintenance and support (and have the opportunity to do it themselves)
- Provides opportunity to try the software before committing to it.

- OSS may reduce vendor lock-in
- Users are able to see and modify the source code – this can lead to increased stability and security. And users can tailor the software to suit their purposes
- OSS communities tend to release early and often, which allows users to take advantage of improvements more rapidly
- Many open source products use open standards which improves interoperability
- OSS products are generally modular, which means that changes to one part of the code are less likely to effect the rest of the package.

Considerations –

- Total cost of ownership – although the initial outlay may be zero, or minimal, agencies need to consider the TCO, which could include support, maintenance, exit costs, installation, system integration, data conversion, testing, inhouse developer skills
- OSS may come with no warranty
- Agencies need to consider availability of support, particularly when using OSS for mission-critical applications
- OSS products are at a variety of maturity and stability levels
- An OSS product may require customisation to meet needs. Customisation should be fed back into the community to avoid code-forking.
- Agencies should consider the size and involvement of the community
- Agencies should ensure any necessary training is available
- Agencies need to consider the cost of contributing to the community. Communities drive innovation for OSS, but generally vendors drive innovation (at their cost) for proprietary products
- Agencies should check the liability in license conditions before modifying and distributing code
- Agencies need to be aware of any onus placed on the user by the license
- Portability is an important consideration – what will happen if you need to change to a different product in the future?
- More releases means greater release management costs, including integration testing, regression testing, bug fixes, training and support costs
- There are typically few or no restrictions, but users need to check the licensing agreement
- OSS may assist in improving security but it can also expose weaknesses to hackers

It is important to be aware that many of these opportunities and considerations also apply to proprietary software products.

Part 3: International Landscape

Brazil – In 2008 Sir Peter Gershon conducted a review of the Australian Government ICT. In his report (section 2.12.7) he made reference to Brazil as "determined to effectively use the latest ICT technology" and "making some of the world's largest investments in open source software". In November 2003, the Brazilian Government issued a policy encouraging the use of OSS. In 2005, 300,000 government computers switched from Microsoft to Linux. In 2008, 73% of large companies in Brazil were using OSS

UK – In 2010, the UK government released the "Open Source, Open Standards and Re-use: Government Action Plan"   This states that the UK government will actively and fairly consider OSS alongside proprietary solutions in making procurement decisions. Where there is no significant monetary difference, open source products will be selected due to their "inherent flexibility".

USA – In 2003 the Dept of Defense approved the use of OSS (subject to meeting security standards). The current policy mandates that OSS must be considered. The policy states that both OSS and non-OSS are equally acceptable and that a decision should be made on merit.

Canada – Several city administrations (such as Edmonton) and Federal departments use OSS, but there is no clear Federal policy regarding OSS.

New Zealand – NZ government agencies are encouraged to assess OSS alternatives (where they exist) alongside commercial software, and should choose based on cost, functionality, interoperability and security.

Other Countries – many other countries have open source policies. These range from mandating (eg Argentina and Ecuador); to consideration alongside proprietary options (eg Belgium); to requirement for government departments to show a preference for open source (eg Cambodia, China). As we'll see, the Australian government position promotes a level playing field.

Part 4: Australian Government OSS Policy

2005 – The initial policy released in 2005 promoted informed neutrality through an unbiased position that does not favour either open source or proprietary software. It also required "value for money", in accordance with the Commonwealth Procurement Guidelines (CPGs)

2011 – Updated policy released. This showed a shift from informed neutrality to active consideration. The new policy was agreed by the Secretaries' ICT Governance Board (SIGB) in December 2010, and applied to any ICT procurement initiated after 1 March 2011. The policy is subject to opt-out. This means that agencies can apply to be exempt from the policy. To date no agency has applied for an exemption to the OSS policy.

Under the new policy value for money is still an essential component of assessment. The total cost of ownership also needs to be considered. Other evaluation criteria include the products fit to the purpose, the fit to the organisation, and the issues raised in previous slides.

The Open Source Software policy contains three key principles:

Principle 1 - Australian Government agencies must actively and fairly consider all types of available software (including but not limited to open source software and proprietary software) through their ICT procurement processes. It is recognised there may be areas where open source software is not yet available for consideration. Procurement decisions must be made based on „value for money". Procurement decisions should take into account whole-of-life costs, capability, security, scalability, transferability, support and manageability requirements.

For a covered procurement (over $80K), agencies are required to include in their procurement plan that open source software will be considered equally alongside proprietary software. Agencies will be required to insert a statement into any Request for Tender that they will consider open source software equally alongside proprietary software. Tender responses will be evaluated under the normal requirements of the Commonwealth Procurement Guidelines (CPGs). For a non-covered procurement (below $80K), agencies are required to document all key decisions, as required by the CPGs. This includes how they considered open source software suppliers when selecting suppliers to respond to the Select Tender or Request for Quotation.

Principle 2 - Australian Government agencies will require suppliers to consider all types of available software (including but not limited to open source software and proprietary software) when responding to agencies" procurement requests.

Agencies are required to insert this requirement into their tender documentation. Suppliers will need to provide justification outlining their consideration and/or exclusion of open source software in their response to the tender. Agencies will determine compliance with this requirement when assessing tender responses.

Principle 3 - The Australian Government, through AGIMO, will actively seek to keep up-to-date with international best practice in the open source software arena, through engaging with other countries and organisations. Australian Government agencies should also actively participate in open source software communities and contribute back where appropriate.

Use of Open Source within the Australian Government – All agencies created under the Financial Management and Accountability Act 1997 (FMA Act) are surveyed annually about their ICT usage. In 2011 the survey showed almost 60 agencies were using OSS, with over 750 open source implementations and over 200 products in use.

Open source is being used on many platforms including Windows, Solaris, Unix and Mac. Applications being used include web platforms (eg Apache), operating systems (eg Linux), GeoSpatial applications (eg GeoNetwork) and web browsers (eg Firefox).

In 2010 the National Open Source Software Observatory released a report on the International Status of OSS. In it they said "Australia is one of the countries that stands out for its OSS activity, particularly the participation of its communities on both a national and international level". This report is available from www.cenatic.es

The Future – AGIMO will continue to monitor OSS usage within government and will review the effectiveness of the new policy in the first half of 2012. Gartner predicts that by 2016, 50% of leading non-IT organisations will use OSS as a business strategy to gain competitive advantage. They also predict that by 2016 OSS will be included in mission-critical software portfolios within 99% of Global 2000 enterprises (compared to 75% in 2010)

Further Information

Further information can be found on the Finance web site (www.finance.gov.au). In particular the Guide to Open Source Software for Australian Government Agencies, which was released in June 2011 (version 2). AGIMO also runs an Open Source community of interest for members of the APS. This group meets several times a year and is an information sharing forum. There is also a wealth of information on the AGIMO whole of government policies that I touched on today, available on the Finance website at the URL on the screen. And my team can be contacted at the email address on the screen.

Thank You