



Open Source Software and the Role of Linux in the Public Sector

AUUG Incorporated

Australian UNIX and Open Systems User Group

<http://www.auug.org.au/>

Presenters



AUUG - Open Computing for Government

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Agenda

- Introduction to AUUG
- Definitions and Background
- The Case for OSS and Linux
- The Practical Challenges
- Shaping the Future
- Demonstrations
- Conclusion
- Q&A

Introduction to AUUG



- AUUG is the oldest or second oldest UNIX user group in the world after the US group USENIX.
- Supports all versions of UNIX, both “free” and commercial.
- Strong technical orientation.
- Annual conference in Spring.
- AUUG is planning to run a “Computing in Government” track this year.

What AUUG has to Offer



- Open Source is only one of AUUG's activities.
- AUUG concentrates on Open Computing, both proprietary and Open Source.
- Vendor neutrality.
- Most AUUG members use Linux or BSD in their daily work.
- A forum for sharing experience with UNIX and Open Computing.

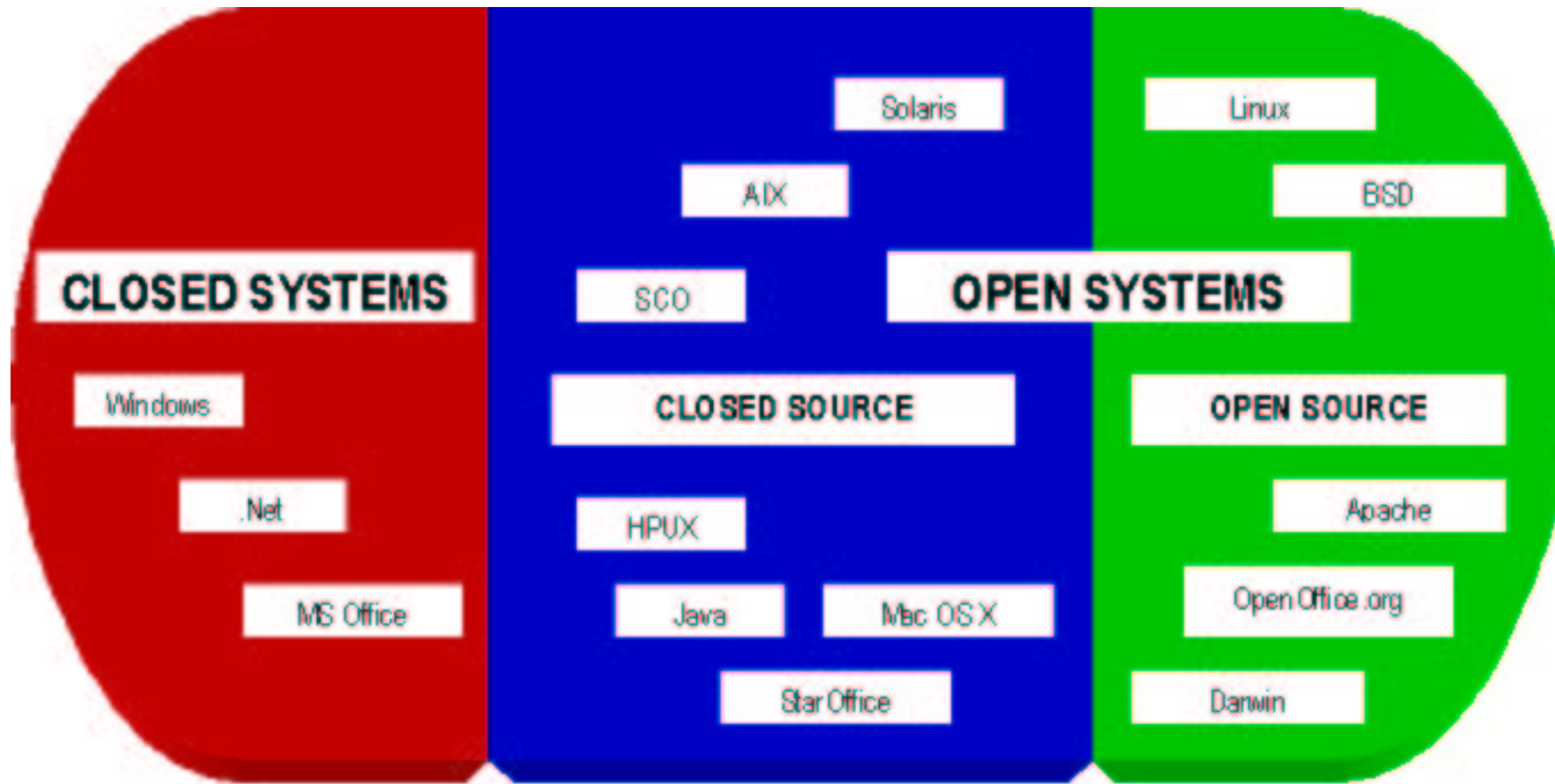
Definitions and Background

Defining Openness



- AUUG Open Computing for Government formed “To accelerate the adoption of Open Computing within all areas of the Australian Government sector.”
- We define an Open Computing system as a system of interacting components (software, hardware and human) with interface specifications that are fully defined, publicly available and maintained according to industry consensus. Some examples of Open Computing components are the UNIX®, Linux and BSD operating systems, the Apache web server and standards based Internet networking.

Open Computing Map



Open Computing



- Based on Open Standards.
- Proprietary components.
- Open Source components.
- Open Source makes it easier to implement Open Computing.

Licenses



- Open Source, e.g.
 - BSD and Apache allow unlimited use, copying and modification, but require acknowledgement of the origins.
 - GPL also requires that any distribution must provide for the supply of the source code, and that any derivative works fall under the GPL.
- Proprietary e.g.
 - MS EULA.

Comparing OSS to Proprietary Licenses



- If you deploy OSS, then you will see the following differences:
 - No restrictions on use of OSS.
 - No need to monitor usage or license compliance.
 - No need to track users who take software home.

Comparing OSS to Proprietary Licenses (continued)



- If you modify software for internal (Government) use:
 - No need to openly publish your code.
 - Source code can be shared freely.

Comparing OSS to Proprietary Licenses (continued)



- If you modify software for external (non-Government) use:
 - With the GPL you will need to make the source code modifications available to the users you supply the software to.
 - This is not necessary for Apache and BSD licenses.

The Case for OSS and Linux - Business

OSS Business Benefits



- Lower Costs.
- Robustness.
- Control.

Lower Costs



- Multi-vendor competition drives down costs.
- Australian government agencies could realize considerable cost savings. e.g. BOM.
- Independent surveys indicate that while Linux staff cost slightly more, they are able to manage four times as many servers and workstations as their Windows counterparts.

(Source: <http://www.zdnet.com/techupdate/stories/main/0,14179,2907876,00.html>)

Robustness



- High uptime is comparable with proprietary UNIX.
- Total failures are uncommon.
- Scalability from PDA to Mainframe.

Robustness (continued)



- No OS platform is totally secure. Security is a process not an end-point.
- Open Source means that security holes are fixed quickly and can be fixed by you.
- Security issues reported to CERT before they become a problem.
- “One of the more unexpected results of the survey was the degree to which DoD security depends on FOSS applications and strategies.”

Source: MITRE Corporation report for the US Government - *Use of Free and Open-Source Software (FOSS) in the U.S. Department of Defense.*

Control



- IT departments are empowered as the balance of power shifts away from vendors.
- No vendor lock in.
- Easier to disengage from a vendor.
- Ability to adapt software to precisely fit your needs.

Example: The Internet



- Built on Open Standards.
- Built on Open Source software.
- Introduced at a time when many competing network technologies existed.
- Successful because it is Open Standards and Open Source.
- Competing proprietary technologies are now no longer competitive.

The Case for OSS and Linux - Public Sector Issues

Government Agency Open Source Initiatives



- Australia (e.g. BOM, Northern Territory Department of Education).
- Canada (Genome Sciences Centre).
- China (China Post).
- Germany (Department of the Interior).
- Norway (Statskonsult - The Norwegian Directorate on Public Management).
- UK (Open Source Software policy).
- USA (NASA, DoD).

OSS Benefits to Australia



- Government mandating standards rather than products.
- Open Protocols. Open Document Formats.
- Copyright issues.
- Lowering the barriers to entry for local ICT producers.
- Local Skills development.
- OSS has the potential to reduce ICT imports.
- Open Source Software need never be obsolescent.
- Lower cost, more robust systems (refer previous slides).

Australia: *Better Services, Better Government* strategy document



- “The Government will encourage trials of open source software within the framework of fit-for-purpose and value-for-money.”
- “Re-use of assets will be enhanced by greater commonality of architecture and open standards

(Source: http://www.noie.gov.au/publications/NOIE/better_services-better_gov/index.htm)

The Practical Challenges - Business Model Deploying Open Source Software



- Evaluate migration costs and amortize over several years.
- Pilot Open Source.
- Nurture staff with UNIX skills.
- Hire or outsource staff with UNIX and OSS skills.
- Implement a program to retrain existing staff.
- Gain experience through deployment in non critical applications.
- When you are ready, move on to business critical systems.

Differences in Running an Open Source Project



- All Open Source solutions can be customised.
- All source code is available for modification and fixing.
- All the software construction environments are available.
- You can assign the task to internal developers.
- You can out source the task to 3rd party service providers.
- You are not required to release the source code.
- The original OSS development team is generally available for help.
- The OSS collaborative development process helps with modifiability.

How an RFQ will be Different



- Prime issue is merit, not openness of source.
- RFQ should emphasize requirements, not technology.
- Preference to open frameworks supported by multiple vendors.

The Practical Challenges - Support Enterprise Class Support



- Sources of enterprise-class support and products:
 - AccPac International, Acucorp, AMD, BEA, BMC Software, Borland, Candle Corporation, Citrix, Computer Associates, Compuware, Concurrent Computer Corporation, Cyclades Corporation, Dell, Digi International, Fujitsu, IBM, Informix, Intel, Groupe Bull, Hewlett-Packard, Hummingbird, LEGATO Systems, Lexmark, Lotus, Mitel, Motorola, NEC, Network Appliance, Novell, Oracle, Quantum, Red Hat, Samsung, SCO, SGI, Software AG, StorageTek, Sun, Sybase, Symantec, Tivoli, Trend Micro, VERITAS Software.

AUUG Australian Open Computing Directory



- To find support for Open Computing systems in Australia visit:

<http://www.auug.org.au/ocg/>

The Practical Challenges - Service Delivery

Integration with Open Standards and Proprietary Systems



OSS Supports most Open Standards and Proprietary Systems:

- Networking (Microsoft, Web, Corba, Web Services).
- Document (Microsoft, Adobe, Graphics, Web).
- Data (XML, SGML).
- Programming (C, C++, Java, COBOL, Perl, PHP).

Commercial Software on OSS



Commercial Software works well on Linux and aids platform migration and integration. Most enterprise class software is available. (But not MS). e.g.

- Oracle.
- IBM DB2.
- Sun StarOffice (MS Office replacement).
- Samsung Contact (MS Exchange replacement for Linux).
- Desktop applications via Win4Lin, Wine, Citrix, Tarantella and rdesktop.

OSS on Proprietary Operating Systems



OSS runs on Windows, MAC OS X and Proprietary UNIX and can ease the transition towards full OSS. e.g

- OpenOffice.org
- Mozilla (Netscape).
- GIMP.
- cygwin (incl Xfree).
- Putty.
- gcc and related development tools.

Shaping the Future

The Impact of OSS



- IBM has changed its business to emphasize OSS.
- Microsoft is adjusting its business.
- Most ISVs are targeting OSS platforms.

Partial Disclosure of Source



- Advantage
 - Satisfies curiosity.
- Disadvantages
 - No way to build the product from source.
 - No way of knowing that the binaries were really created from the source code.
 - No way of fixing bugs.
 - No way of building derivative works.

Demonstrations

A screenshot of a Linux desktop environment. The desktop background is blue. On the left, there is a sidebar with icons for Trash, Printer, Floppy (A:), and CD-Writer. A Netscape browser window is open, displaying the NOIE website. The main window is OpenOffice.org 1.0.1, showing a presentation slide. The slide content is as follows:

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Click to add title

Open Source Software and the
Role of Linux in the Public
Sector

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The presentation window shows slide 1 of 46. The system tray at the bottom includes a taskbar with icons for various applications and a clock showing 08:17 on 2003-02-05.

Conclusion



Overall OSS Benefits

- Open Source makes it easier to implement Open Computing that delivers:
 - Lower TCO.
 - Greater Robustness.
 - Greater Control.
 - Potential benefits for the Australia community.

Q&A



Any additional questions can be addressed to AUUG's
Open Computing for Government task force:

<http://www.auug.org.au/ocg/>