Open Source Software and the Future of Hydroinformatics

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Outline

• Nature and emergence of OSS
• Emergence of hydroinformatics
• Software as a product vs software as a service
• Future of OSS and hydroinformatics
Open source movement

• Set of principles and practices
  – to promote access to the production and design process
  – for various goods, products, resources and technical conclusions or advice

• Dates from a Netscape release in 1998 of an open source version of their browser: Mozilla
Open source movement

• Presents a challenge to the concept of intellectual property
• Can/should we restrict knowledge dissemination (especially in software) through patents?
• We are turning from a society of ‘knowers’ to one of consumers of knowledge
Open source software

• Made available to the general public
  – with relaxed intellectual property restrictions

• Allows users to create their own software content
  – through individual effort or collaboration
Open source software

- Free redistribution of software as a component
- Open source distribution as well as compiled
- Derived works through modification permitted
- Integrity of author’s source code
- No discrimination against persons or groups
- No discrimination against fields of endeavour
- Distribution of licence
- Licence must not be restricted to a particular product
- Licence must not restrict other software
- Licence must be technology and style of interface neutral

(Ken Coar 2007)
Some key open source software

• Linux operating system
• Apache web server
• Sendmail email server
• Mozilla/Firefox web browsers
• OpenOffice office systems

(Dave Wheeler 2007)
Claims for OSS

- More reliable (peer reviewed)
- Better performance
- Improved scalability (with regard to platforms)
- Superior security
- Protection from risks of single supplier
- Greater flexibility
- Encourages innovation

(Dave Wheeler 2007)
Hydroinformatics

- Emerged in the early 1990s out of computational hydraulics, with its packaged, proprietary simulation modelling products
- Seeks an inclusive, socio-technical management of water resources through the innovative application of relevant information and communication technologies
Hydroinformatics

- 4th generation simulation modelling products generated by small group of suppliers and distribution restricted to limited set of ‘knowing’ (and paying) customers
- Need a different business model to circulate the knowledge encapsulated in the products and their use more widely
- Take advantage of Internet and World Wide Web
Open source movement

- Mutualism between participants
- Federalism between groups of participants
- Direct action in processes of society and nature
From software as a product to software as a service

• (Internet) Access to software, the associated encapsulated knowledge and the knowledge of the use of the software
• Opportunities for service providers
• Opens up possibility of comprehensive stakeholder participation

(Mike Abbott 2006)
New model requires

• Non-authoritarian (anarchistic) construct
• Self organising
• Emergent and transient structure
• The development and application of SWAT is an excellent example
• The challenge is: how to move from the academic environment to water sector practice
References

• Mike Abbott (2006) From an open source to an open mind
• http://www.opensource.org/
• http://en.wikipedia.org/wiki/Open_source
Thank you for your attention