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Economics Benefits of Free and Open Source Software in Electronic Governance

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Free software

0. The freedom to run the software for any purpose
1. The freedom to study the software and adapt it to ones needs
2. The freedom to redistribute the software to help ones neighbours
3. The freedom to improve the software and share the modifications with the community

Open Source Software

- ▶ Development method
 - ▶ Everybody has access to source code
 - ▶ Everybody can submit contributions
- ▶ Aimed at businesses
- ▶ Does not focus on users' freedom
- ▶ Not necessarily free software

The Policy of the Icelandic Government

1. Free software shall have the same opportunities as proprietary software
2. Software which supports open standards shall be used
3. Lock-ins into specific software developers shall be avoided
4. Software built and financed by public agencies shall be reusable
5. Students shall be able to familiarise with, and use, both free and proprietary software

Economic Aspects of Software Systems

- ▶ Switching cost
- ▶ Network effects
- ▶ Versioning
- ▶ Pricing
- ▶ Rights management
- ▶ Standards

Switching cost

- ▶ The cost of switching from one supplier to another
- ▶ High switching cost infers lock-in
- ▶ Various switching costs

Network effects

- ▶ Additional adoption makes existing or new users better off
- ▶ Direct network effects
 - ▶ If one uses a good other people benefit
- ▶ Indirect network effects
 - ▶ Wider adoption changes the behaviour of third actors

Versioning

- ▶ Different versions aimed at different groups
- ▶ Two approaches
 - ▶ Restrictive versioning
 - ▶ Adaptive versioning

Pricing

- ▶ Difficult to find the right pricing scheme
- ▶ Production cost is high, reproduction cost is low
- ▶ Important to differentiate ones product from other
- ▶ Free and open source software becomes a competitive advantage

Rights Management

- ▶ Access restrictions
- ▶ Copy protection
- ▶ DRM
- ▶ Public archives

Standards

- ▶ Users and innovators benefit
- ▶ Reduce lock-in and expand market size
- ▶ Threatening to established procedures and formats

Open standard

- ▶ The standard is maintained by a not for profit organisation
- ▶ Continuing development is done with open decision processes and open to everyone
- ▶ The standard has been published and its definition is free or available for a nominal fee
- ▶ No constraints on the re-use of the standard

Benefits of Free and Open Software

- ▶ Avoid lock-ins by using open standards and avoid copy protection
- ▶ Reduces switching costs in the long run
 - ▶ Correct timing is important in the short run
- ▶ Versioning problems
- ▶ Possibility to use an electronic marketplace/webportal
- ▶ International cooperation has positive network effects

