



Open Source

Creativity, Communities and Commerce

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The End

„The efficient allocation of resources is a fundamental problem for any modern economy.“



The Objects

„Things“

Efforts

Capital

Information



Our Focus Today

Software



The Means?

How is software, and software development best allocated and managed?



Two Adversaries

Proprietary vs. Open



The Poster Childs



Making Money

„Who can afford to do professional work for nothing?“



Making Presents

„[K]nowledge should be shared with other people
who can benefit from it.“



The Principal Conflict

„Information Wants To Be Free.
Information also wants to be expensive.“





What is Open Source?



The „Constitution“ of Open Source

Technically speaking: A matter of licenses

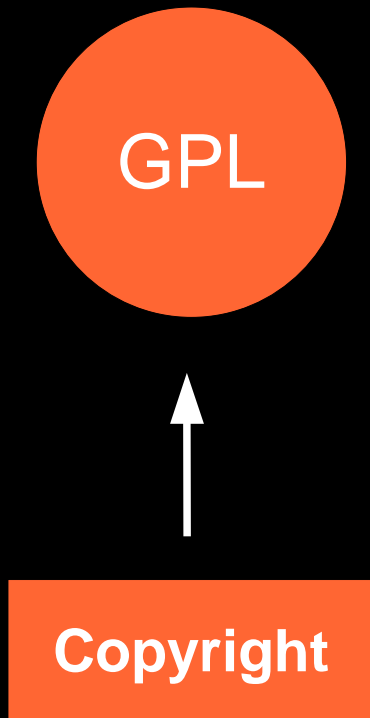




GPL



Using Copyright in Unintended Ways



Modification is explicitly permitted.

Distribution is permitted as long as the GPL keeps attached.





Open Source Economics and Law



Control and Profit

„In the software industry, intellectual property is a company's most valuable asset.“



The Problem

Possible Value of Software

Value of proprietary software



The Value Dilemma

„Copyright and patents are fine, but they pit the vendor in an adversarial relationship with the customer.“



The Dependency Dilemma

„Every program depends on other programs.“



The Solution

Open Source!



The Future

„Open source is inevitable.“



RedHat statement about open source.

http://www.redhat.com/en_us/USA/opensource/now/

Cease Control and Raise Value

“No more technology lock-in.
No more monopolies.”

That is:
more flexibility and choice.



Commercial Motivation behind Open Source

“[I]t is both reasonable and beneficial for firms to allocate substantial resources to OS innovation.”

“[I]nvolvement and investment [...] [yield] returns of developing particular expertise and knowledge.”



Gains on the Production Side

„Rich information exchange among large sets of agents free to communicate and use existing information resources cheaply will create sufficiently substantial information gains [to] overcome the added information exchange costs necessary to overcome the absence of pricing and managerial direction, and the added coordination costs created by the lack of property and contract as institutional bases for structuring coordination.“



Lower Costs

Distribution
Marketing
Sales

(e.g. MySQL)



To Sum Up

Open Source raises customer value, creates new business opportunities, and lowers the cost of software production.

It also lowers the cost of marketing and sales.

(Think of 4 P's, alternatively)

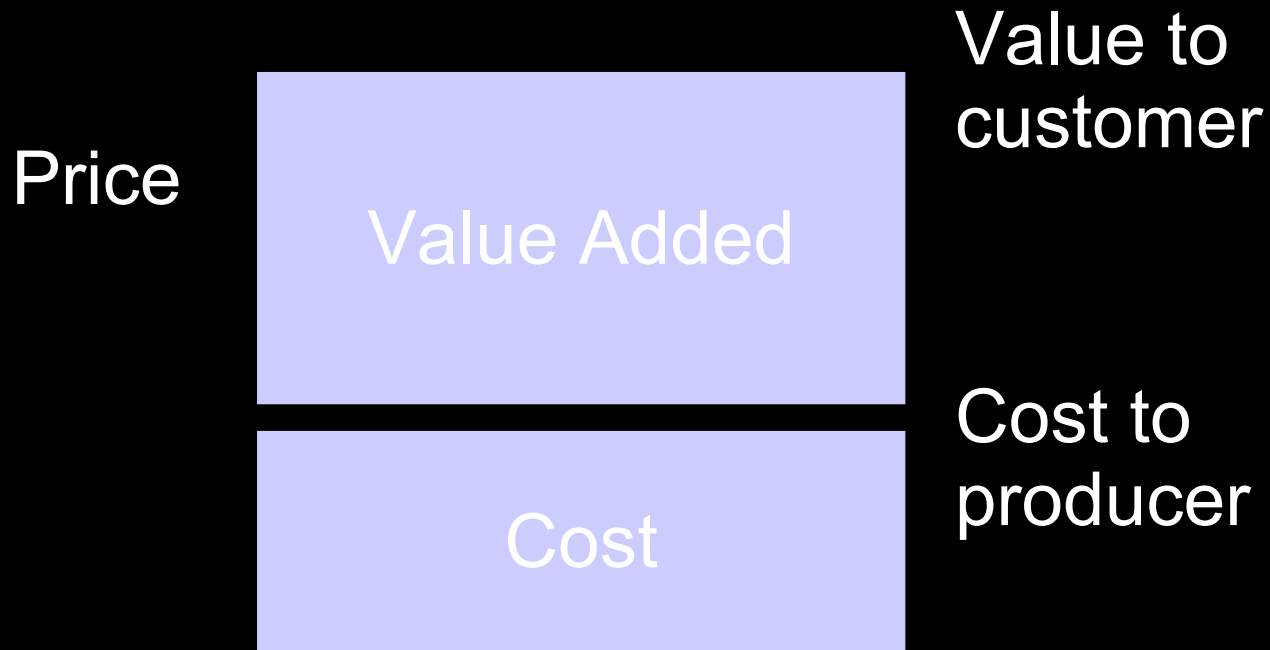




The Effect

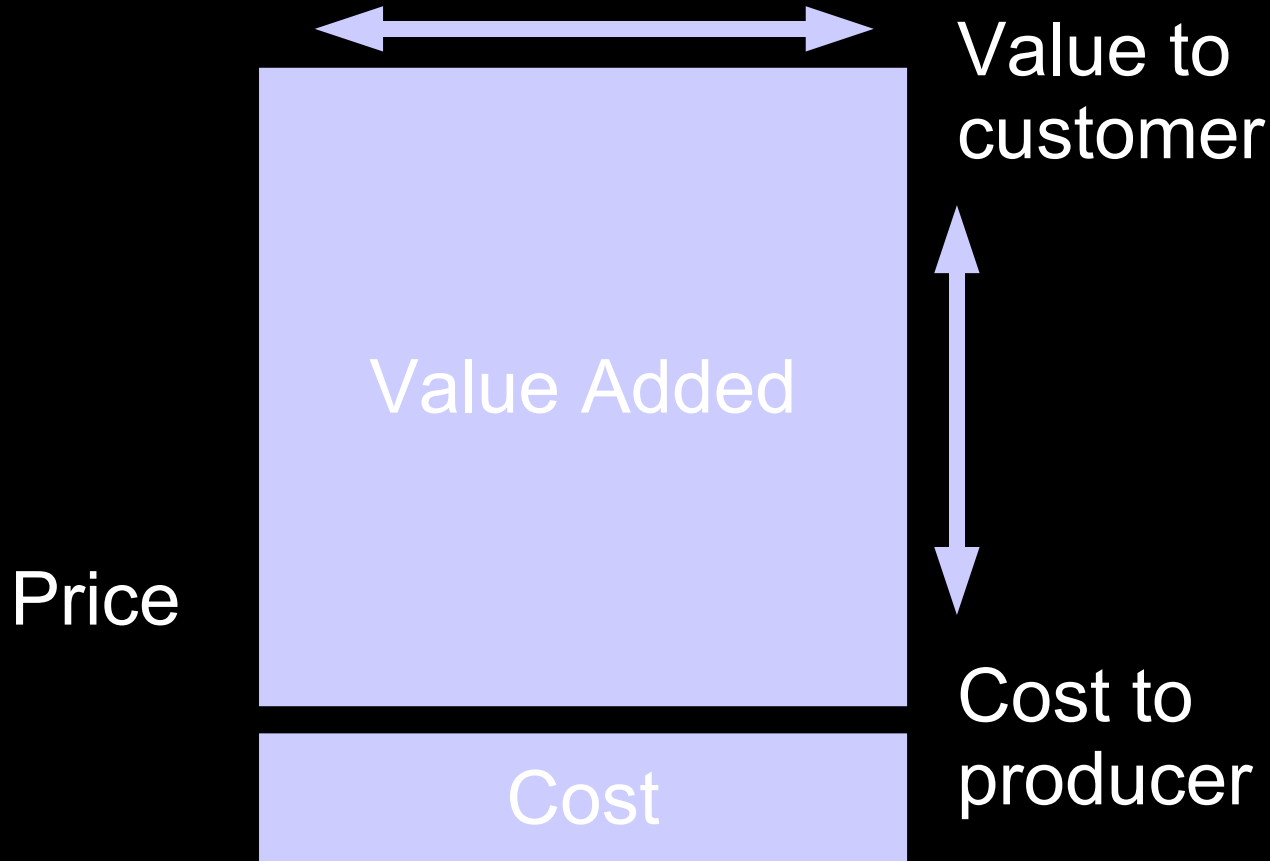


„Closed Source“



Open Source

Potentially broader adoption





Business Models



Profit from Excludable Adjacent Goods

„Information goods do not exist in isolation. The good [...] comes 'bundled' with a large number of other customer needs, social implications, market effects, and business opportunities.“



Complement

IBM server

Oracle

(Open source software complementing their products)



Professional Services / Customisation

RedHat

JBoss

Zope

(Services based on their expertise stemming from heavy involvement with a certain software)



Dual Licensing

MySQL

Trolltech

(GPL and proprietary licensing, virtually 100 percent development in-house)



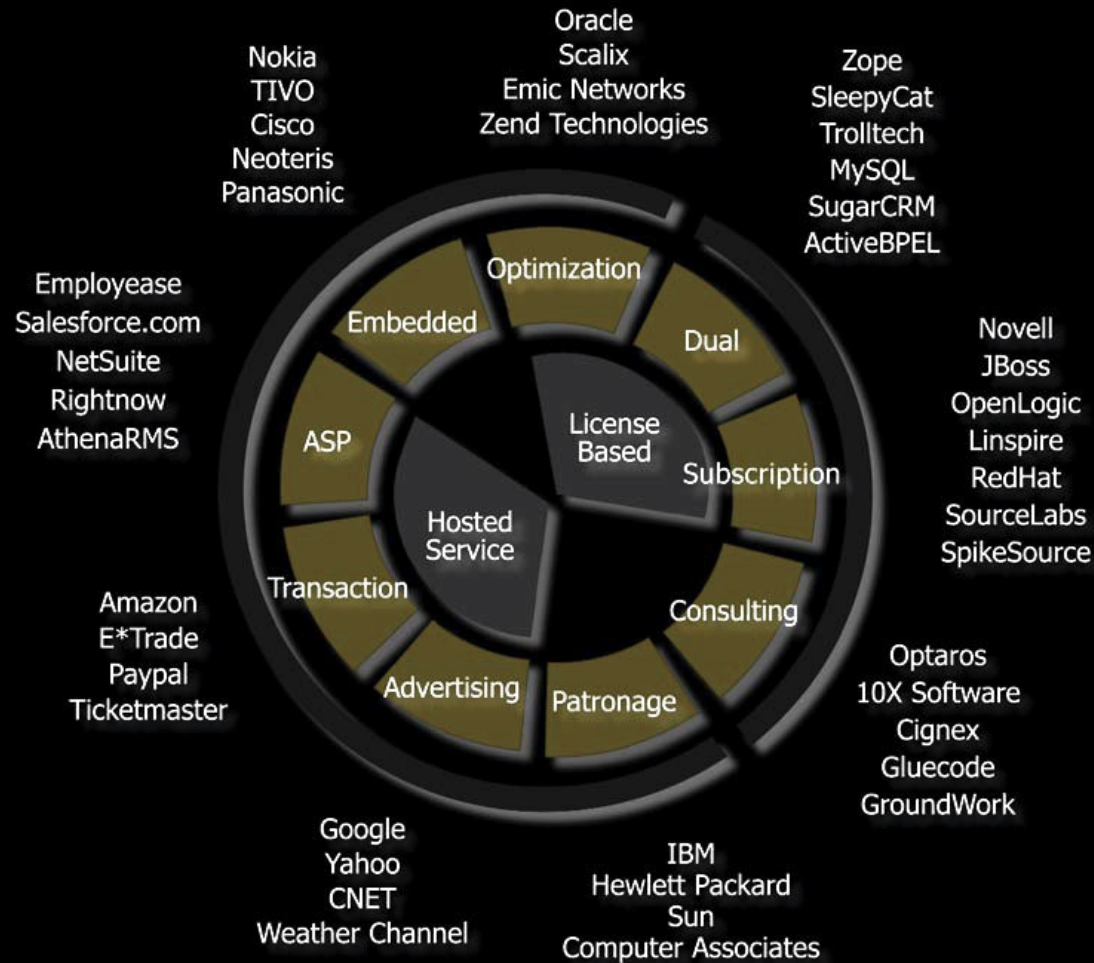
ASP Model

Google
Amazon

(Software as service)



A Whole Host of Business Models



John Koenig (2005). Seven Open Source Business Strategies for Competitive Advantage. <<http://www.riseforth.com/images/Seven%20Strategies%20-%20Koenig.pdf>>

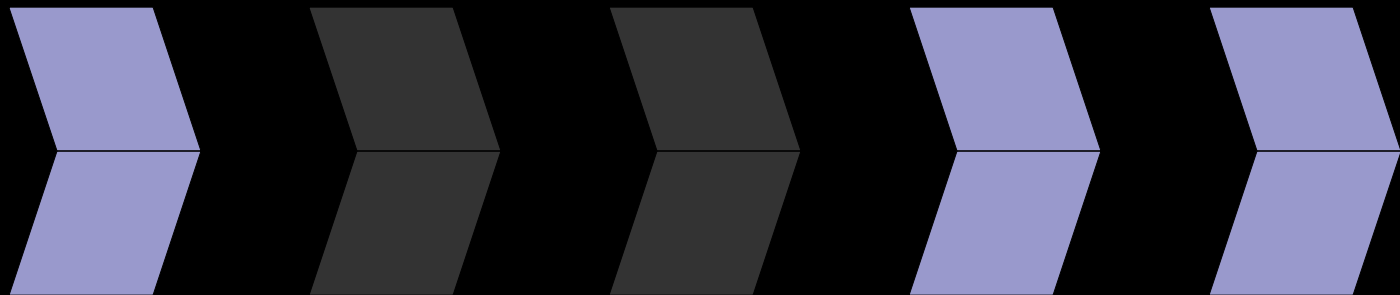
A Complete „Ecosystem“

**Marketing
Requirements**

**Design, Implemen-
tation, Testing**

Support

Services



plus: Risk Management, Finance





Quo Vadis?



The Future

Commoditisation
(up and out of the stack)

Collaboration
(across firm frontiers,
think of user innovation,
also think of Amazon)

Customisability
(flexibility)



The Challenges

Compatibility
(Standards, Interfaces)

Complexity
(Licenses, Features, Bugs)

Charge
(„Bounded rationality“,
make users aware of their power and options)

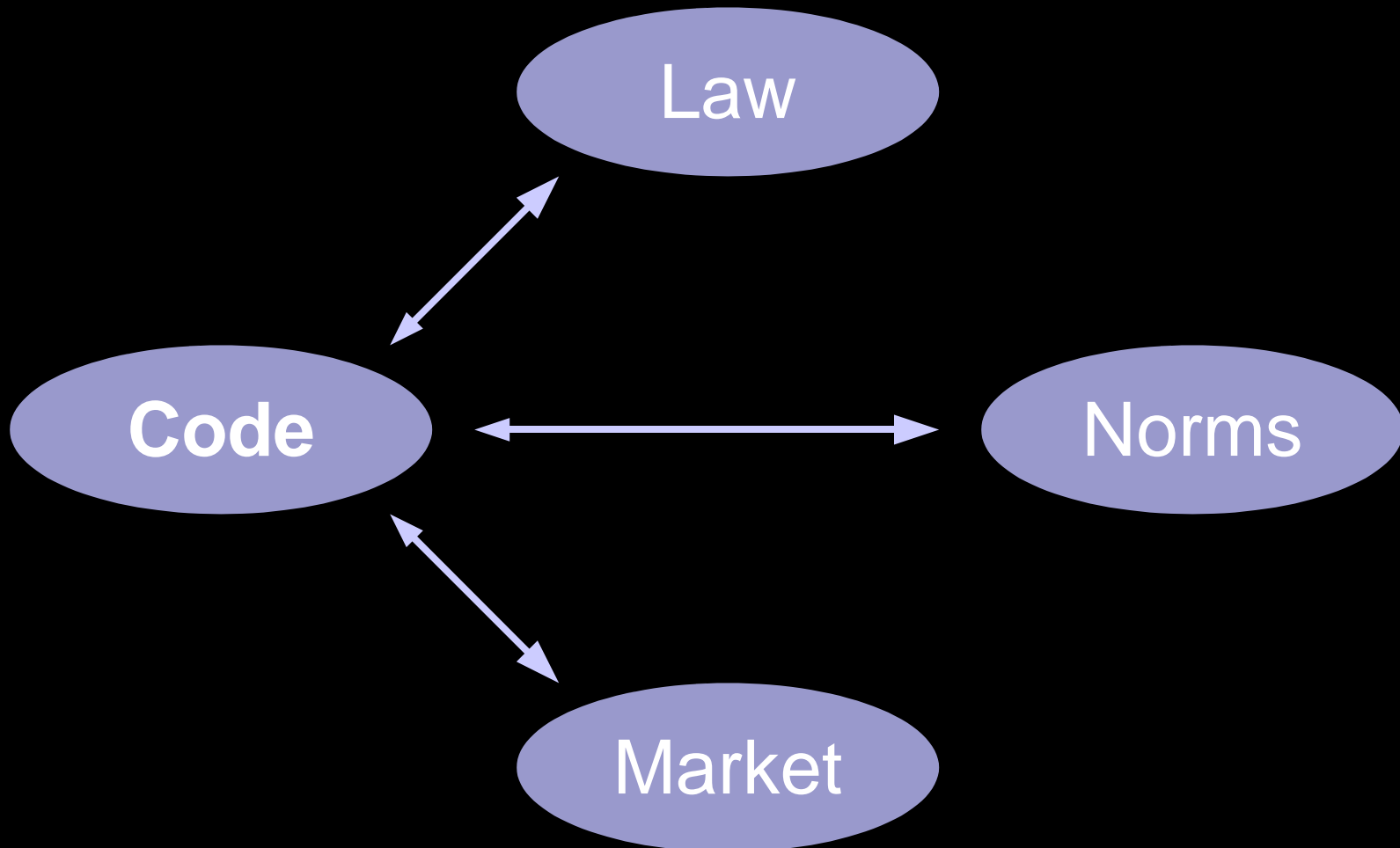




Open Source as Institution



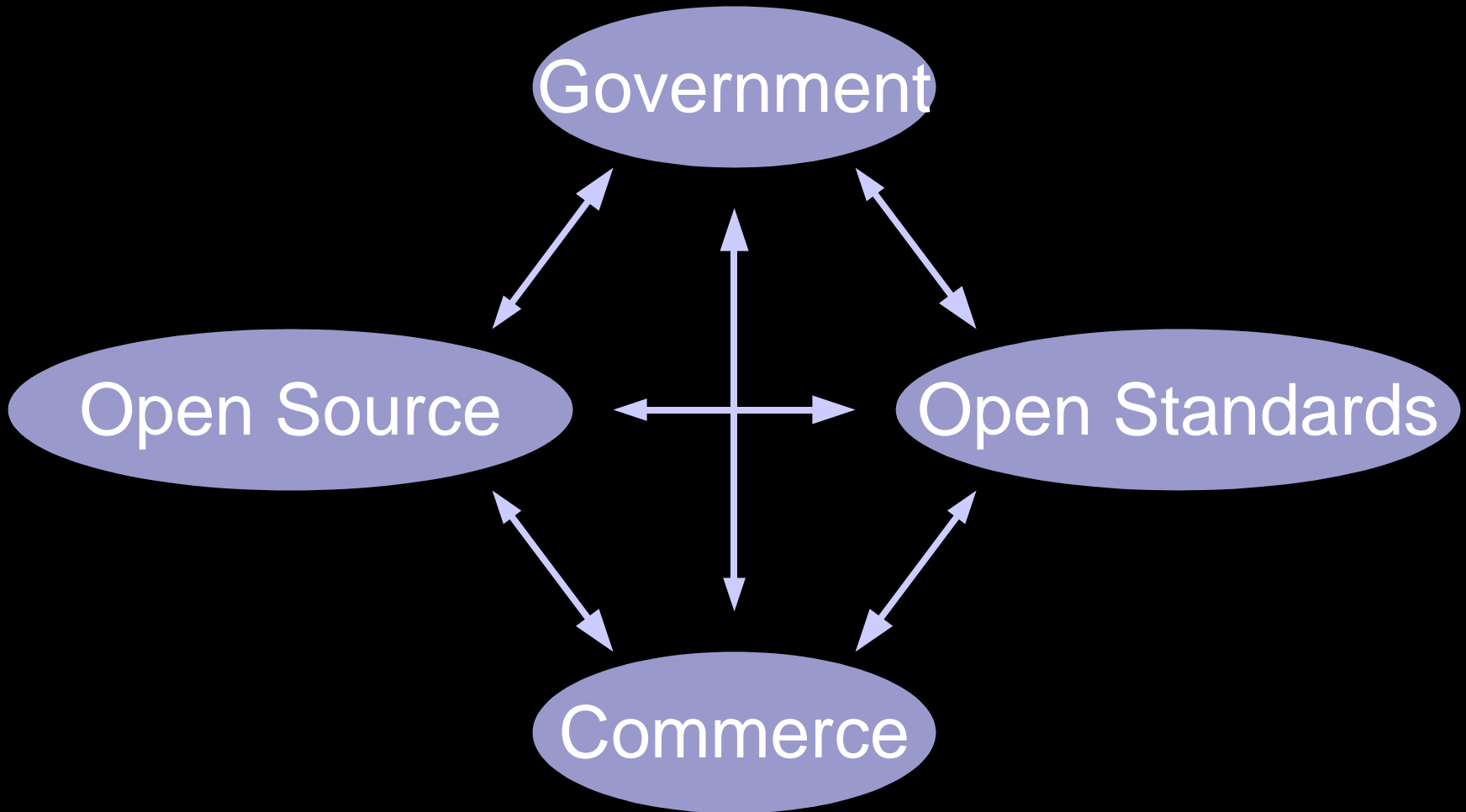
Lessig's Fourth Institution



Lessig, L. (1999). Code and other Laws of Cyberspace. Basic Books



The Rôle of Open Source



Promoting Open Source through Architecture

Think of HTML or the beginnings of UNIX.

Think of standards and defaults.

Create „architectures of participation“, with „low barriers to entry“ and „some mechanism for isolating the cathedral from the bazaar.“





Intrinsic Motivation

„Freude an einer Tätigkeit“ und „Erfüllung von Normen um ihrer selbst willen“



Yet

Most developers derive tangible benefits from their participation at open source.



Ghosh, R. A., R. Glott, B. Krieger, and G. Robles (2002). Free/libre and open source software: Survey and study FLOSS deliverable D18: Final report part IV: Survey of developers. <<http://www.infonomics.nl/FLOSS/report/>>.

And Even Worse

The utility derived thus correlates strongly with the efforts employed.





Dying Efforts

„We [...] believe that the unchecked spread of open-source software, under the GPL [...], is a much more serious threat to our capitalist system than U.S. corporations realize.“



SCO Group CEO Darl McBride (2004), as quoted in Stephen Shankland, “SCO targets federal supercomputer users“, ZDNet News, March 19, 2004, <http://news.zdnet.com/2100-3513_22-5176308.html>