The Sanity of Open Source

Redundancy and Rationality

Matthias Bärwolff

Dept. of Computers and Society

Technische Universität Berlin

http://ig.cs.tu-berlin.de

Agenda

· Intellectual property rights

· Licensing of open source software

· Open source as a business model

The Principal Conflict

"Information Wants To Be Free. Information also wants to be expensive." (Brand 1987)

Brand, S. (1987). The Media Lab: Inventing the Future at MIT, Viking Penguin.

Copy & Paste

Copy & Paste

"[K]nowledge should be shared with other people who can benefit from it, and [...] important resources should be utilized rather than wasted." (Stallman 1996)

Richard Stallman (1996). Linux Review, Interview with Richard Stallman
(http://hammer.prohosting.com/~runlinux/stallman.shtml)

Copy & Paste

"That ideas should freely spread from one to another over the globe, for the moral and mutual instruction of man, and improvement of his condition, seems to have been peculiarly and benevolently designed by nature, when she made them." (Jefferson 1813)

Jefferson, T. (1813). Letter to Isaac McPherson. Available online via Google.

Evolution of Code

```
main() {

        printf("Hello, world!\n");

}
```

Evolution of Code

```c
#include <stdio.h>

main() {

        printf("Hello, world!\n");
        exit(0);

}
```

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Software Development

„[P]rogrammers use C&P very frequently."

Miryung Kim, Law rence Bergman, Tessa Lau, and David Notkin (2004). An Ethnographic Study of Copy and Paste Programming
Practices in OOPL, Proceedings of the 2004 ACM-IEEE International Symposium on Empirical Softw are Engineering (ISESE 2004).
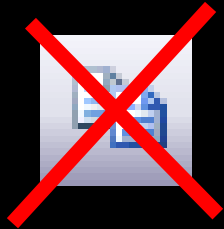http://tlau.org/research/papers/M.Kim-EthnographicStudyofCopyPaste-ISESE.pdf

Copy & Sell

Rhymin' & Stealin'

„[T]he thing you do is theft.“

Benefit from Scarcity

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

Microsoft (2003). Software Development Models Overview,
http://www.microsoft.com/resources/sharedsource/Articles/SoftwareDevelopmentModelsOverview.mspx

By Secrecy

"Control over source-code [...] permits technology innovators to prevent others from using their developments without compensation."

Microsoft (2003). Software Development Models Overview,
http://www.microsoft.com/resources/sharedsource/Articles/SoftwareDevelopmentModelsOverview.mspx

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And Law

"The owner of a copyright, patent or trademark holds a bundle of exclusive rights in relation to the subject matter of their intellectual property."

Intellectual property, Wikipedia, <http://en.wikipedia.org/wiki/Intellectual_property>.

GPL, "Copyleft", and other Licences

The GPL

"We [...] belief 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." (McBride 2004)

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>

Using Copyright in Unintended Ways
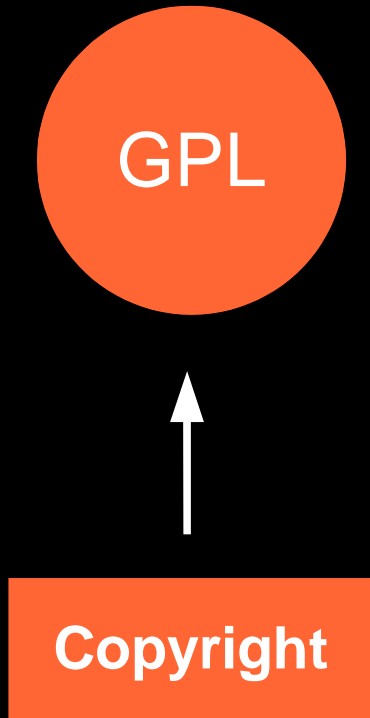
GPL

Copyright

- Modification is encouraged and explicitly permitted.

- Distribution is permitted as long as the GPL keeps attached.

http://www.gnu.org/licenses/gpl-faq.html

Linking Open Source and Closed Source

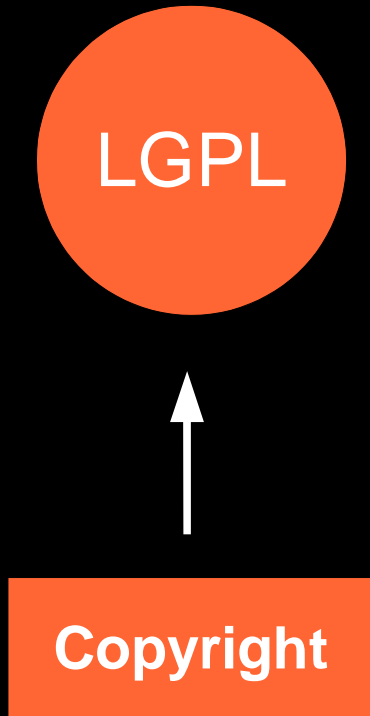LGPL

Copyright

- Modification is encouraged and explicitly permitted.

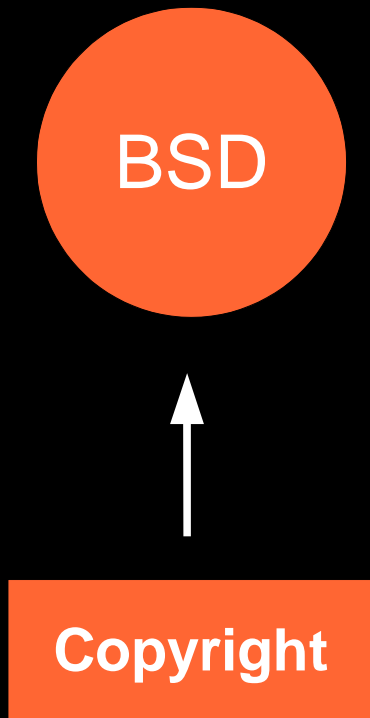- Distribution is permitted as long as the LGPL keeps attached.

- Bundling with proprietary software is okay.

http://www.opensource.org

No Restrictions Whatsoever

BSD

Copyright

- Any use, including modification and redistribution as proprietary software under a commercial licence is permitted.

Bruce Perens (1999). The Open Source Definition. In Open Sources: Voices from the Open Source Revolution (Eds. Chris DiBona, Sam Ockman, Mark Stone). O'Reilly. <http://www.oreilly.com/catalog/opensources/book/perens.html>

Mix and Match

Dozens of Open Source Software (OSS) licences

Uncounted commercial ones

Equal OSS licences fit

Cross-licensing may be viable

David A. Wheeler (2005). Make Your Open Source Softw are GPL-Compatible. Or Else. <http://w w w .dw heeler.com/essays/gpl-compatible.html>
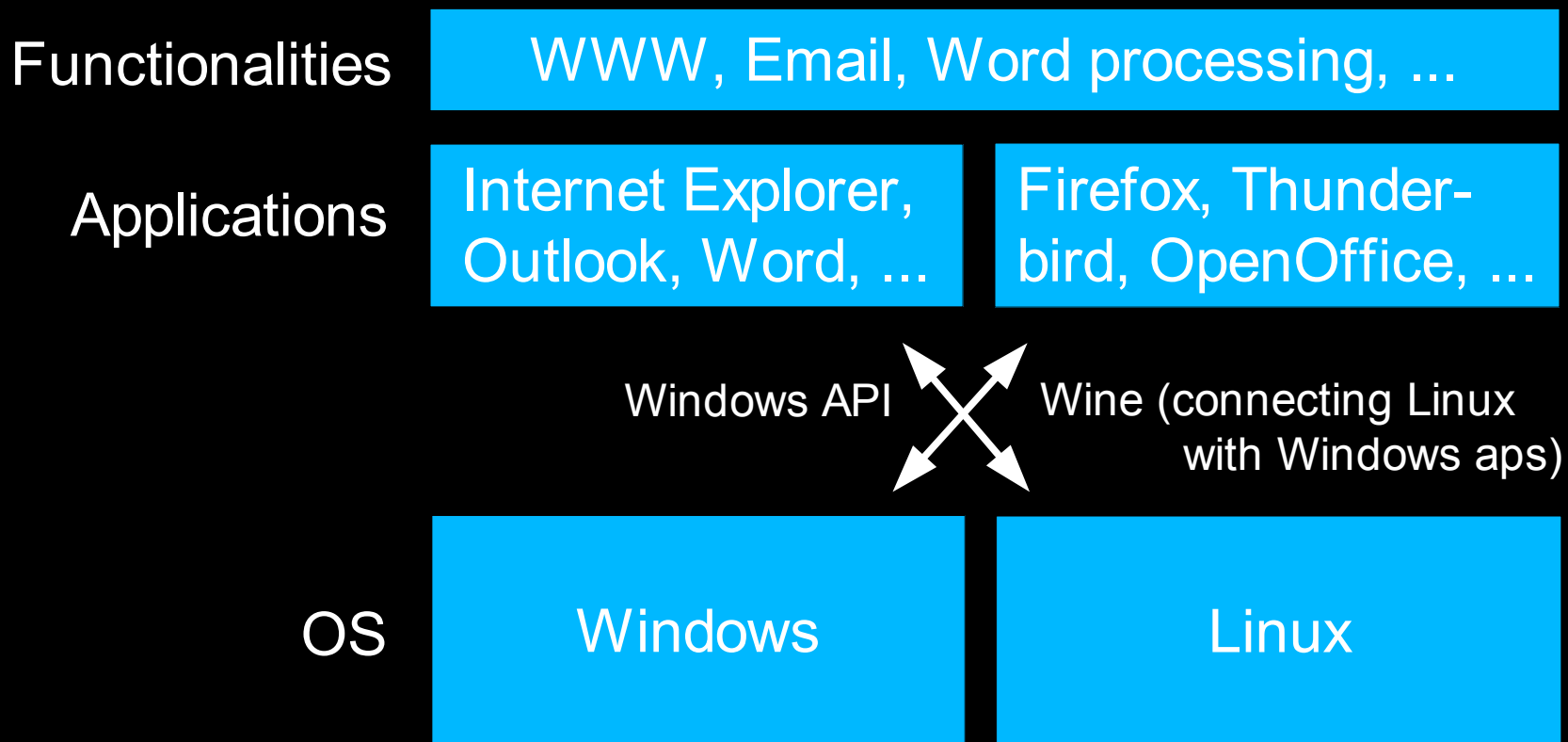
Andrew M. St. Laurent (2004). Understanding Open Source and Free Softw are Licensing. O'Reilly. <http://w w w .oreilly.com/catalog/osf reesoft/book/>

OSS and Commercial Software

... mix and match, too.

Bridges on the Desktop

Functionalities	WWW, Email, Word processing, ...
Applications	Internet Explorer, Outlook, Word, ... — Firefox, Thunder-bird, OpenOffice, ...

Windows API ⤢⤡ Wine (connecting Linux with Windows aps)

OS	Windows — Linux

Bridges in the Enterprise

Applications	Standard Interfaces	Clients
Application server		Web server
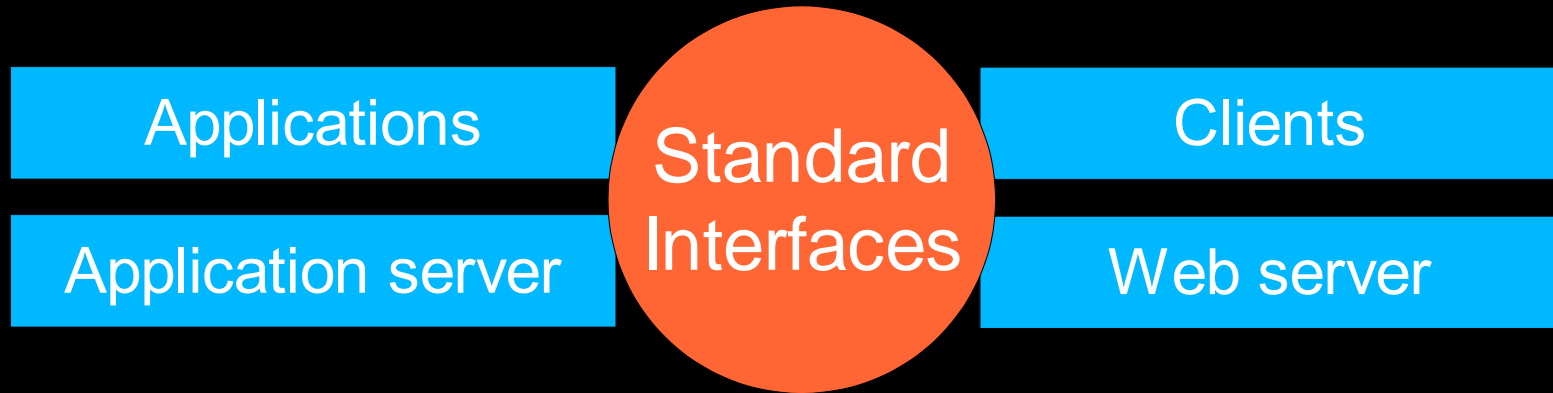
TCP/IP, DNS, LDAP IMAP, POP, SMTP

HTTP, ODBC, SQL, Java, J2EE

XML, PDF, HTML, ODF, SWF

OASIS, RFC, IEEE, IETF, W3C

Open Standards

"[C]ompatible products frequently improve substantially on [...] products [...] both in terms of price and performance, and often also in terms of innovation." (Millard 2000, p. 205)

Millard, C. (2000). Copyright. In C. Reed and J. Angel (Eds.), Computer Law (4th ed.)., Chapter 6, pp. 177-226. London: Blackstone Press Ltd.

Open Source as a Business Model

The Future of the Software Industry

"Open source is inevitable."

RedHat statement about open source. <http://www.redhat.com/en_us/USA/opensourcenow/>

Cease Control and Raise Value

"No more arbitrary pricing.

No more technology lock-in.

No more monopolies."

RedHat statement about open source. <http://www.redhat.com/en_us/USA/opensourcenow/>
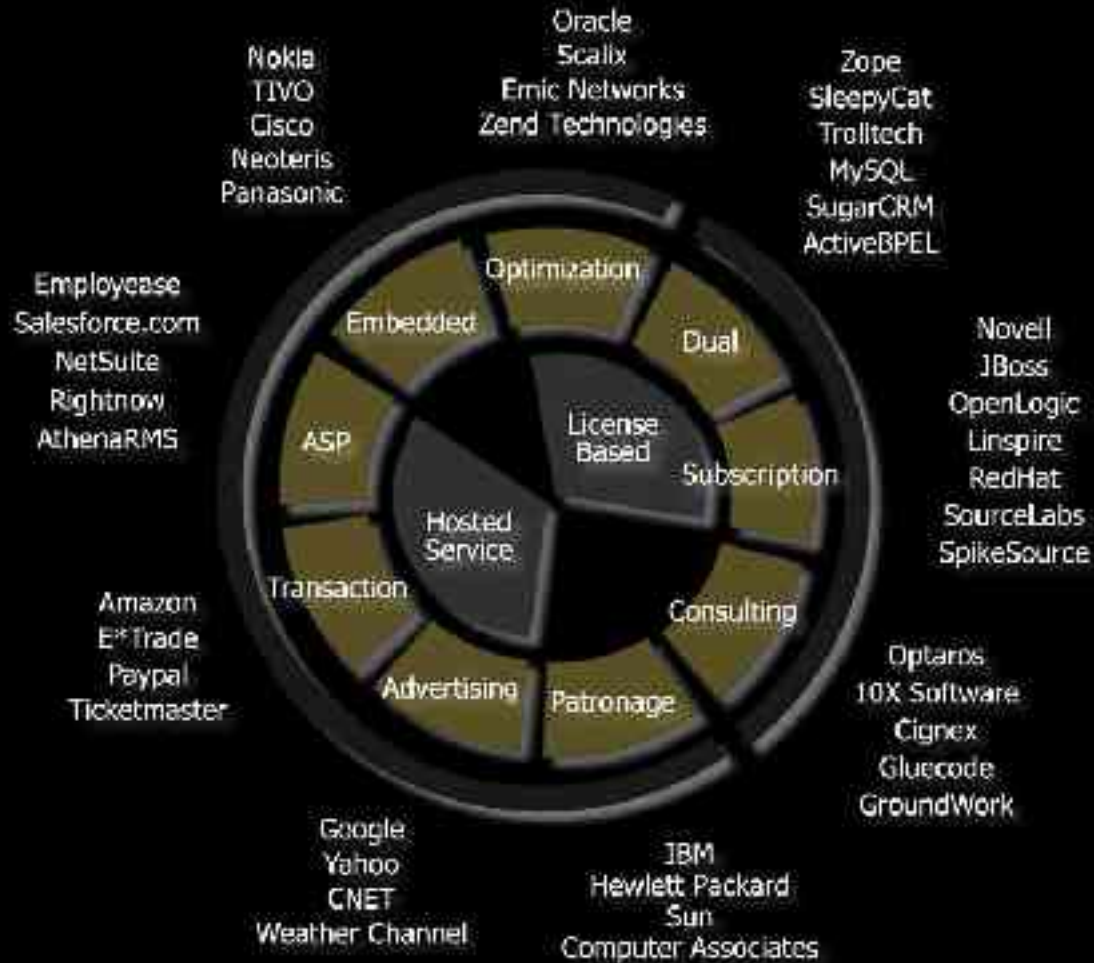
Profit from Excludable Adjacent Goods

"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. These linked or bundled phenomena may well be excludable to a greater degree than the information good itself." (Boyle 2000, p. 2015)

Boyle, J. (2000). Cruel, mean, or lavish? Economic analysis, price discrimination and digital intellectual property. Vanderbilt Law Review 53 (6), 2007–39. <www.law.duke.edu/boylesite/cruel.pdf>

Value Added with Open Source

· Input (MacOS X)

· Complement (IBM server)

· Output (RedHat Enterprise Linux, MySQL)

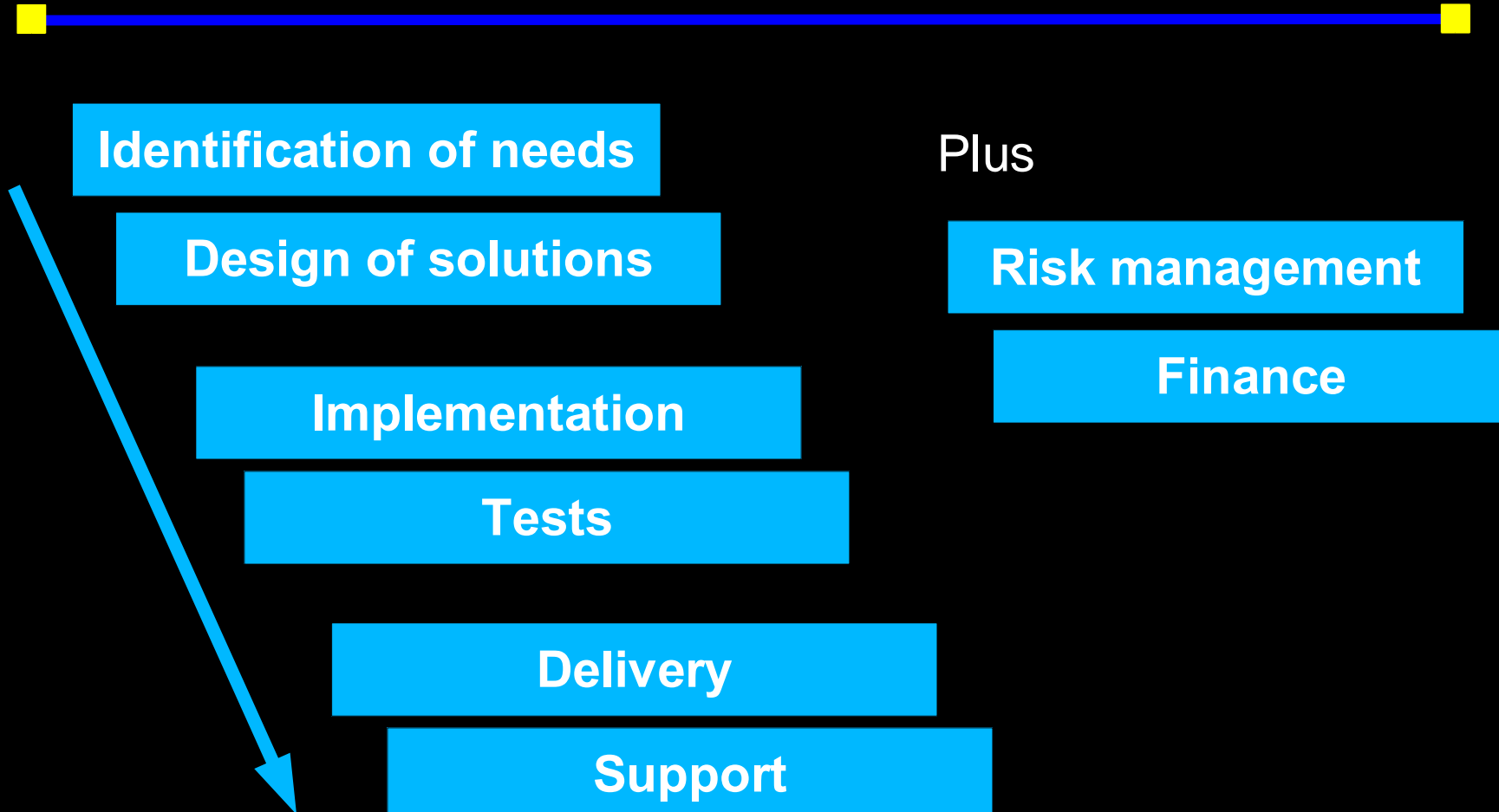· Means of raising business operations efficiency

Revenues Sources

Nokia
TIVO
Cisco
Neoteris
Panasonic

Oracle
Scalix
Emic Networks
Zend Technologies

Zope
SleepyCat
Trolltech
MySQL
SugarCRM
ActiveBPEL

Employease
Salesforce.com
NetSuite
Rightnow
AthenaRMS

Novell
JBoss
OpenLogic
Linspire
RedHat
SourceLabs
SpikeSource

Amazon
E*Trade
Paypal
Ticketmaster

Optaros
10X Software
Cignex
Gluecode
GroundWork

Google
Yahoo
CNET
Weather Channel

IBM
Hewlett Packard
Sun
Computer Associates

Optimization
Embedded
Dual
ASP
License Based
Subscription
Hosted Service
Transaction
Consulting
Advertising
Patronage

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

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Sources of Value

Identification of needs

Plus

Design of solutions

Risk management

Finance

Implementation

Tests

Delivery

Support

Building on *Paul Vixie (1999). Software Engineering. In Open Sources: Voices from the Open Source Revolution. O'Reilly. <http://www.oreilly.com/catalog/opensources/book/vixie.html>* and *Business Week Online (2005). Open Source: Now It's an Ecosystem. <http://www.businessweek.com/technology/content/oct2005/tc2005103_0519_tc_218.htm>*

Increasing Levels of Commitment

OSS compatible business model

OSS as a design choice

OSS as complementary asset

Firm as user of OSS

Grand, S., G. von Krogh, D. Leonard, and W. Swap (2004). Resource allocation beyond firm boundaries: A multi-level model for open source innovation. Long Range Planning 37, 591–610.

Commitment and Knowledge Creation

"[I]t is both reasonable and beneficial for firms to allocate substantial resources to OS [open source] innovation."

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

Grand, S., G. von Krogh, D. Leonard, and W. Swap (2004). Resource allocation beyond firm boundaries: A multi-level model for open source innovation. Long Range Planning 37, 591–610.

Everyone is Better Off with Open Source

· Customers

· OSS communities

· Firms

Grand, S., G. von Krogh, D. Leonard, and W. Swap (2004). Resource allocation beyond firm boundaries: A multi-level model for open source innovation. Long Range Planning 37, 591–610.

Lessons learned

- IP rights as the foundation of classical business models

- Open source licensing as the constitution of open source

- Open source as a viable business model

"All's well that ends well."

Shakespeare (1623), All's Well That Ends Well. http://www.gutenberg.org/etext/2246