# Open source with private source: Case studies

David Ing

*Aalto University, Department of Industrial Engineering and Management, coevolving@gmail.com*

## ABSTRACT

*This article excerpts a forthcoming dissertation titled "Open source with private source: coevolving architectures, styles and subworlds in business". In workshop proceedings published in 2012, the labels "open source" and "private source" have been defined. For the workshop in 2013, the emphasis shifts to examining the cases associated where* open source **with** private source – *as phenomena mixed both concurrently and serially – has been observed.*

## KEYWORDS

*open source, private source, architecture, style, subworlds*

## 1.0 INTRODUCTION

How do *open source* and *private source* coexist and coevolve as patterns of behaviour in business?

The label "open source" is widely accepted as a descriptor of software licensing. More generally "open source" can be described as a way in which some software development communities operate. This understanding can be extended to other types of systems, such as a business as a whole. *Open source* has a meaning more specific than open. Open *source* is associated with visibility to system internals, whereas open *interfaces* are associated with external protocols.

In a contrasting definition, a system with *private source* reserves the visibility of its internals with a privileged group, thereby retaining responsibility and authority for maintaining and enhancing behavioural integrity for the containing systems of systems.

Open source is not necessarily incompatible with commercial interests, and private source is not necessarily incompatible with non-commercial

interests.

**Table 1: Focus of research as open source with private source, operating simultaneously in both commercial and non-commercial contexts**

|  | Private source only | Open source with private source | Open source only |
|---|---|---|---|
| Commercial only | trade secret |  | copyright (licensed) |
| Simultaneously commercial and non-commercial |  | domain for research |  |
| Non-commercial only | non-disclosure agreement |  | copyright (fair use) |

How can some companies operate as open source while also simultaneously operating as private source?

## 2.0 THEORETICAL BACKGROUND

Although theories on open source have been developed, theories on open source with private source will be new.

Theories on *open source* are rooted in "The Cathedral and the Bazaar" at the 1997 O'Reilly Perl Conference (Raymond 2000).

*Private source* is an underused label that can clarify the spirit (rather than legal terms) in collaborative development and innovation. One of the earlier public appearances of *private source*, in opposition to open source is by IBM in August 2006, at the Linux World Conference (IBM 2006).

In computer science, the label tracks back to the period when computer programming was moving from punch cards to magnetic storage. The use of the label "private source" as "not available to just any user" is an acknowledgement of the obsolescence of physical records (i.e. statements punched onto paper cards) to electronic storage (i.e. magnetic disk) to which access privileges could be programmed as open or private (Flores and Feuerman 1975).

Private property, in opposition with ownership put into the public domain, can be either associated with, or decoupled from, private source and open source. Incorporated businesses can separate control from ownership, creating "powers in trust" (Berle and Means 1991).

The embedding of open source into commercial open source is listed as one of three broad categories of company business models: (i) pure open source

models, (ii) hybrid open source/commercial licensing models; or (iii) embedded open source models (Aslett 2009). Of these categories, the cases selected for this study has focused primarily on embedded open source models where the target customers are commercial enterprises.

## 3.0 METHODOLOGY AND DATA

The approach is inductive case study. Process data has been collected over a decade, viewed as multilevel (Langley 1999; Burton-Jones and Gallivan 2007). Processual analysis is performed on multiple case studies (Pettigrew 1997; Langley 2007). Theory is built through induction of findings framed as patterns, observations, inferences and complements (Carlile and Christensen 2005; Burch 2009; Eisenhardt and Graeber 2007; Christensen and Raynor 2003). Pluralistic contexts are approached through multiparadigm inquiry (Lewis and Kelemen 2002; Lewis and Grimes 1999; Poole and van de Ven 1989).

Nine case studies from from 2001 to 2010 are examined:

- (1) integrated development environments (IDEs) with OTI and Eclipse;

- (2) broadcast messaging (microblogging) with IBM Community Tools, Lotus, and OpenNTF;

- (3) collaborative web content sharing (wikis) with JSPWiki, Confluence and Lotus Connections;

- (4) personal web content sharing (blogs) with Roller, IBM Developerworks and Lotus Connections;

- (5) digital media sharing (podcasting) with the w3 Media Library;

- (6) web mashups (multi-source Internet integrations) with the Situational Application Environment, IBM Mashup Maker and Lotus Mashups;

- (7) agile web extension integration with Project Zero and Websphere sMash;

- (8) collaborative distributed development (collaborative application lifecycle management) with jazz.net and Rational Team Concert; and

- (9) document authoring with OpenOffice and Lotus Symphony.

Some of these cases started as open source and subsequently became both

open source and private source; others originated as private source and were pledged as open source.

## 3.1 IDEs (Integrated Development Environments)

|  |  | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Open source |  |  | Eclipse Consortium | | Eclipse Foundation | | | | | | |
| Private source | (a) (b) | | Eclipse Platform extended for IBM Rational, Websphere, Tivoli, Lotus brands | | | | | | | | |

(a) In 1996, IBM acquired Object Technologies International and the Envy/Developer product.

(b) In 1999, IBM introduced VisualAge Micro Edition.

## 3.2 Broadcast Messaging (microblogging)

|  |  | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Open source |  |  | | (a) | | | (b) | Lotus Sametime 7.5 Plug-ins (via TAP) | | | |
|  |  |  | | | | | | Bluetwit (with Twitter) | | | |
|  |  |  | | | | | | | Status Updater plug-in and Hackdays | | |
|  |  |  | | | | | | | | Status Updater on OpenNTF | |
| Private source |  |  | | | IBM Communities Tools (via Webahead) | | | | | | |
|  |  |  | | | | | | | Lotus Connections (profile status messages) | | |

(a) In 2002, an XMPP Working Group was approved by the Internet Engineering Steering Group.

(b) In 2005, XMPP is adopted in Google Talk.

### 3.3. Collaborative Web Content Sharing (wikis)

| | | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Open source | (a) | JSPWiki | | | | | | | | | |
| | | | | | Instawiki | | | | | | |
| | | | | | | w3 Wiki Central | | | | | |
| | | | | | | | Snapps Wiki Templates on Lotus Quickr | | | | |
| Private source | | | | | | | | Lotus Connections Wikis | | | |

(a) In 1995, Ward Cunningham invents the Wiki Wiki Web to support the Hillside Group in a Design Patterns Library.

### 3.4 Personal Web Content Sharing (blogs)

| | | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Open source | | | | Roller | | | | | | | |
| | | | | | | Blog Central | | | | | |
| Private source | | | | | DeveloperWorks | | | | | | |
| | | | | | | | | | Lotus Connections Blogs | | |

### 3.5 Digital Media Sharing (podcasting)

| | | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Open source | | | | | | Webahead Podcasting Pilot | | | | | |
| | | | | | | | | w3 Media Library (on TAP) | | | |
| | | | | | | | | | w3 Media Library (on IHE) | | |
| Private source | | | | | | | | | | | |

### 3.6 Web Mashups (multi-source Internet integrations)

| | | 20 01 | 20 02 | 20 03 | 20 04 | 20 05 | 20 06 | 20 07 | 20 08 | 20 09 | 20 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Open source | | | | | | | Situational Application Environment (and SAE Contests) | | | | |
| | | | | | | | | IBM Mash-up Maker | | | |
| | | | | | | | | | IBM Mashups (on TAP) | | |
| Private source | | | | | | | | | Lotus Mashup | | |

### 3. 7 Agile Web Extension Integration

| | | 20 01 | 20 02 | 20 03 | 20 04 | 20 05 | 20 06 | 20 07 | 20 08 | 20 09 | 20 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Open source | | | | | | | | Project Zero | | | |
| Private source | | | | | | | | | Websphere sMash | | |

### 2.8 Collaborative Distributed Development (C/ALM Collaborative Application Lifecycle Management)

| | | 20 01 | 20 02 | 20 03 | 20 04 | 20 05 | 20 06 | 20 07 | 20 08 | 20 09 | 20 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Open source | | | | | | | | Jazz platform | | | |
| Private source | | | | | | | | | Rational Team Concert | | |
| | | | | | | | | | Rational Requirements Composer | | |
| | | | | | | | | | | Rational Quality Manager | |

## 2.9 Document Authoring

| | | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Open source | (a) | | | | | | | | | Open Office v3 (with IBM contributions) | |
| Private source | | | | | | | IBM Lotus Productivity Tools (on TAP) | | | | |
| | | | | | | | | Lotus Symphony | | | |

(a) OpenOffice was derived from StarOffice and given an open source license by Sun Microsystems in 2000.

## 4.0 FINDINGS UNDER DEVELOPMENT

Further development of the dissertation is expected to emerge in three paradigms: (i) descriptive patterns in architecture including originality, offerings and paths; (ii) descriptive patterns in styles including predispositions, engagement and reproduction; and (iii) normative patterns including subworlds (commercial and non-commercial), history-making and development.

## 5.0 CONTRIBUTION TO THEORY AND PRACTICE

For researchers, these early cases of open source with private source provide a foundation for further theoretical refinement, and inquiry into broader generalizability.

From practitioners, approaches to and practices in open source with private source successfully applied in the ICT (Information and Communications Technologies) segment may also be cross-appropriated into other business domains.

## LIST OF REFERENCES

Aslett, Matthew. 2009. "On Open Source Business Strategies (again)." *451 CAOS Theory*. 23. http://blogs.the451group.com/opensource/2009/02/23/on-open-source-business-strategies-again/.

Berle, Adolf Augustus, and Gardiner Coit Means. 1991. *The Modern Corporation and Private Property*. Transaction Publishers.

Burch, Robert. 2009. "Charles Sanders Peirce." *Stanford Encyclopedia of Philosophy*. http://plato.stanford.edu/entries/peirce/#dia.

Burton-Jones, Andrew, and Michael J. Gallivan. 2007. "Toward a Deeper Understanding of System Usage in Organizations: A Multilevel Perspective." *MIS Quarterly* 31 (4) (December): 657–679. http://misq.org/toward-a-deeper-understanding-of-system-usage-in-organizations-a-multilevel-perspective.html.

Carlile, Paul R., and Clayton M. Christensen. 2005. "The Cycle of Theory Building in Management Research." http://smgnet.bu.edu/mgmt_new/profiles/CarlilePaul.html.

Christensen, Clayton M., and Michael E. Raynor. 2003. *The Innovator's Solution: Creating and Sustaining Successful Growth*. Harvard Business Press.

Eisenhardt, Kathleen M., and Melissa E. Graeber. 2007. "Theory Building from Cases: Opportunities and Challenges." *Academy of Management Journal* 50 (1) (February): 25–32. doi:10.5465/AMJ.2007.24160888. http://dx.doi.org/10.5465/AMJ.2007.24160888.

Flores, I., and M. Feuerman. 1975. "Source Statement Libraries and IBM System/370." *Computer Languages* 1 (2) (June): 139–150. doi:10.1016/0096-0551(75)90013-2. http://dx.doi.org/10.1016/0096-0551(75)90013-2.

IBM. 2006. "IBM Unveils Development Roadmap and Business Strategy for Open Source Beyond Linux." *IBM News Releases*, August 15. http://www-03.ibm.com/press/us/en/pressrelease/20131.wss.

Langley, Ann. 1999. "Strategies for Theorizing from Process Data." *The Academy of Management Review* 24 (4) (October): 691–710. doi:10.2307/259349. http://dx.doi.org/10.2307/259349.

———. 2007. "Process Thinking in Strategic Organization." *Strategic Organization* 5 (3) (August 1): 271–282. doi:10.1177/1476127007079965. http://dx.doi.org/10.1177/1476127007079965.

Lewis, Marianne W., and Andrew J. Grimes. 1999. "Metatriangulation: Building Theory from Multiple Paradigms." *The Academy of Management Review* 24 (4) (October): 672–690. doi:10.2307/259348. http://dx.doi.org/10.2307/259348.

Lewis, Marianne W, and Mihaela L. Kelemen. 2002. "Multiparadigm Inquiry: Exploring Organizational Pluralism and Paradox." *Human Relations* 55 (2) (February 1): 251–275. doi:10.1177/0018726702055002185. http://dx.doi.org/10.1177/0018726702055002185.

Pettigrew, Andrew M. 1997. "What Is a Processual Analysis?" *Scandinavian Journal of Management* 13 (4) (December): 337–348. doi:10.1016/S0956-5221(97)00020-1. http://dx.doi.org/10.1016/S0956-5221(97)00020-1.

Poole, Marshall Scott, and Andrew H. van de Ven. 1989. "Using Paradox to Build Management and Organization Theories." *The Academy of Management Review* 14 (4) (October): 562–578. doi:10.5465/AMR.1989.4308389. http://dx.doi.org/10.5465/AMR.1989.4308389.

Raymond, Eric S. 2000. "The Cathedral and the Bazaar." http://www.catb.org/~esr/writings/cathedral-bazaar/cathedral-bazaar/.