



Waves and Rivers

Trends and Futures for Open Solutions

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Sun
microsystems
We make the net work.


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1: Massively Connected

Traveller's Tales

- 1994
 - Cash & Travellers Cheques
 - Airline tickets
 - Telephone kiosks & bureaux
 - Poste restante
- 2004
 - ATMs & global credit
 - Paperless air travel
 - GSM mobiles & calling cards
 - E-mail & internet cafes

Massively Connected Effects

- Traveller's Tales
- Web logs (Blogging)
- Web services concept
- Open Source Development
- Globalisation of politics
- Online activism in USA

The Massively-Connected Era

- Rapid Evolution
 - In just one decade the world has become massively connected
- Technology Promotes Connection
 - Device proliferation, growing bandwidth, service oriented architectures \Rightarrow many dimensions/layers of relationship
- Fractal Architectures
 - We are moving to networks of networks

Waves of Change

Waves of change...



If we were massively connected...

There would be no
boundaries to defend

DIGITAL IDENTITY

If we were massively connected...

Software would become
network-resident services

WEB SERVICES

If we were massively connected...

Software could not be
priced on implementation
details

SUBSCRIPTIONS

If we were massively connected...

System stakeholders would
be enfranchised in
development

OPEN SOURCE

2: Open Source Aspects

History
Developers
Deployers
Freedom

Historical Break

**“History repeats itself. Has to. No-one listens”
- Steve Turner**

Technology Waves are Nothing New..



The New Means of Production

- With acknowledgement to the work of Prof. Yochai Benkler
 - <http://www.benkler.org/CoasesPenguin.html>

Pre-industrial revolution

- Individual artisans
- Craft guilds
- Community standards
- Shared methods



Industrial Revolution

- Mass production
- Unskilled labour
- Repetitive mass action
- Low cost mitigated so-so quality
- Socially costly



The Demise of Guilds

- Became rich from control instead of benefit
- Rejected new innovations
- Became too socially elite & technically complex



Massively Connected Society

- ‘Commons-Based Peer Production’
- Community
- Reputation-based
- Shared materials
- Open Source communities - the new Guilds



And the new industrial revolution?

- Will exploit blind spots
- May repurpose strengths
- Left as an exercise for the reader...

Open Source & Developers

“Open source is
about **liberty**,
not economy”

Open Source Methodology

- ‘Commons-Based Peer Production’
 - Yochai Benkler, <http://www.benkler.org/CoasesPenguin.html>
- Commons Based
 - Facilitated by Commons-creating licenses
- Peer community
 - Facilitated by community governance
- Production
 - Focus on code not specification
- Governance + Code + License

Open Source Communities

- Open Source: Agile Development Done By A Community
- If there's no community, there's no open source; it takes more than just applying an OSD-compatible license (“you can live in a garage all your life and never become a car”)

Retaining Freedom...

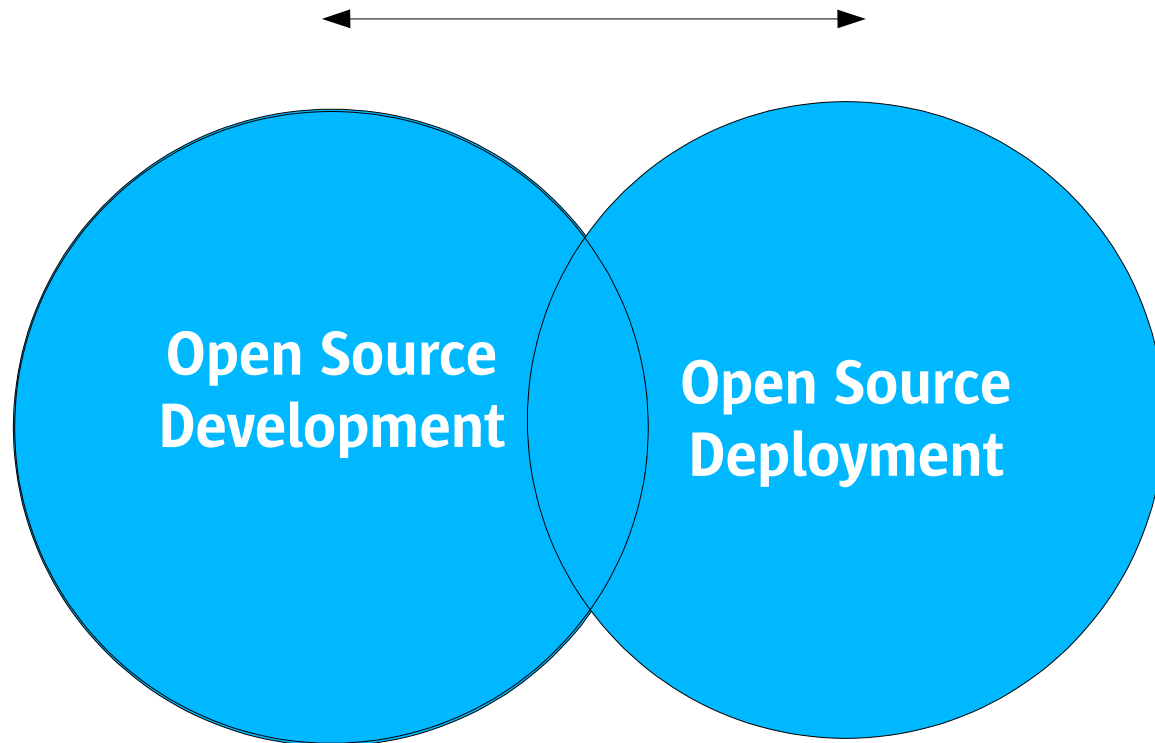
- Licenses license copyright. Who owns it and why?
- Who are the committers? Who decided?
- The best open source projects implement recognised open standards in an interoperable way:
Standards + Open Source + Interop = Freedom

Open Source & Deployers

“ Open source is
about **liberty**,
not ^{just} economy ”

A large blue circle with a thin black outline, centered on the page. Inside the circle, the text "Open Source Development & Deployment" is written in white, bold, sans-serif font.

**Open Source
Development
& Deployment**



Why Open Source?

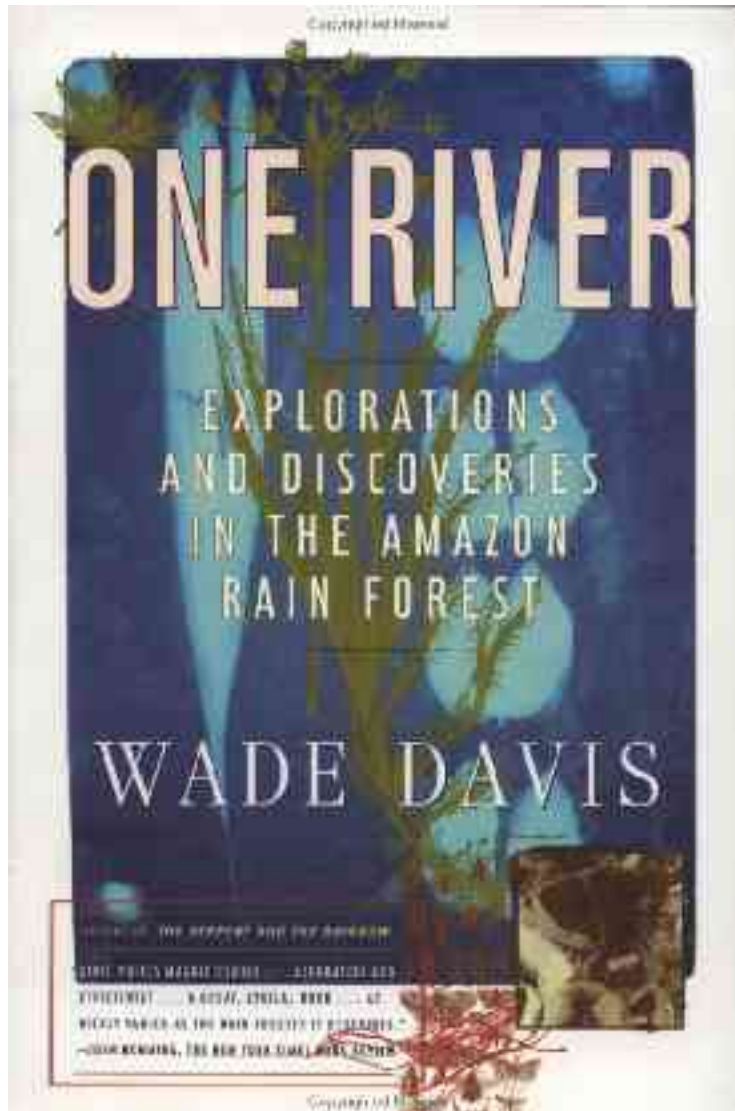
- Research suggests the #1 factor is...
- Choice and Freedom
 - Software features, Support provider, Platform
 - “The freedom to choose again”
 - Worth \$10m to City of Munich...
- & then one other from:

Deployer Open Source Factors

- Quality
 - Open source development at its best is like Extreme Programming on steroids
 - More stable & reliable code - mass inspection
- Security
 - Inspected algorithms are secure algorithms
 - Security through obscurity is discredited
- Cost
 - Not free, but shared & reasonable

On Freedom

One River?



- Rhetorically, the Amazon is one river.

... or many?

- Practically, it is many.

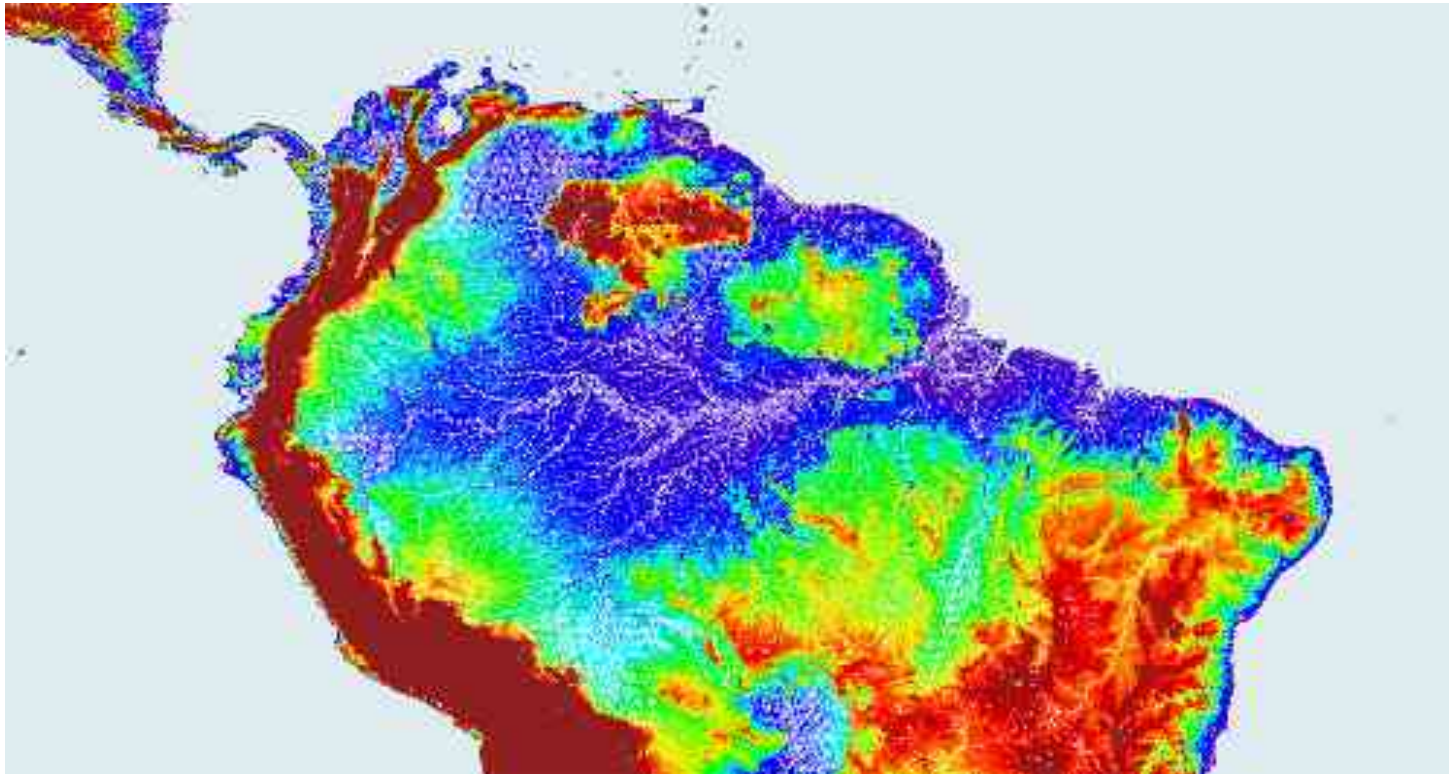


Photo credit: European Space Agency,
http://esamultimedia.esa.int/images/EarthObservation/amazon_river.jpg

Freedom In Common

- Objective of OSI (open standards initiative)
 - Freedom through standards
- Objective of FSF
 - Freedom through source access
- Objective of Java & JCP
 - Freedom through compatibility
- Objective of OSI (open source initiative)
 - Freedom through licensing
- Each solving a different part of the same problem; freedom is the goal

Software Freedom is the Goal

- Freedom to use
 - Freedom to choose
 - Freedom to develop
 - Freedom to profit
-
- "I want you to have it for free AND for it to be easy to use AND there to be no lock in AND for us all to get paid" – Nathan Torkington

Are Standards Enough?



Is Free/Open Source Enough?



No Guarantee of Freedom Alone

- Open Source is about freedom to develop software
- End-user Freedom is not inevitable
- Freedom for all is a product of:
 - Open standards
 - Software portability
 - Transparency & Inclusiveness
 - Interoperability
 - Open licensing

Part of the Flow

Specification

**Freedom = Specification +
Implementation +
Interoperability**

Implementation

Interoperability

OpenOffice.org Protects *Both* Freedom Groups

- Open Source protects developers
- Open formats protect deployers
- Interoperability protects investments

Apache Geronimo Protects Both Freedom Groups

- Open source community protects developers
- JSR compatibility protects deployers
- Diverse market of open and closed source alternatives maintains choice

It's a battle out there

- First they ignore you, then they laugh at you, then they fight you, then you win. (*M.K. Gandhi*)
- We are at the “fighting” stage
- Issues will arise. Guaranteed.
- Work through them with trust.

- They are all happening because
THIS TIME FREEDOM WILL WIN!

3: Open Source in Practice

“It's In The Genes”

- Sun is a pioneer of community-based business models
 - Market-creating pioneer with BSD
 - Public release of NFS
 - ... and much more
- Sun Continues to Pioneer Freedom
 - Java release - with source - in 1995
 - Open Office.org, 2000
 - Sun Java Desktop System with Linux, 2003
 - Open source and Solaris, coming soon...

Sun and Open Source

- Using several business models
 - Sun Java Desktop “aggregate & support”
 - StarOffice based on OpenOffice.org, which Sun sponsors - “productise & support”
 - Sun Java Studio based on NetBeans, which Sun sponsors - “customise into product”
- Participating in Linux community in support of extensive server range
- Active in many many more contexts - see www.sunsource.net for details

Held Up By Art?

- From “The Hitchhikers' Guide to the Galaxy”:
- *A cup, part of a statue, fifteen miles high, carved from solid marble, called "Arthur Dent Throwing The Nutrimatic Cup." The Cup is a mile long, and it just hangs in the sky. It's kept up and held there by Art.*
- “If you open source all your software, how will you make money?”



This Computer



Documents



Network Places



Trash



Learn About The Java™ Desktop

- Email and Calendar
- StarOffice 7
- Web Browser
- Applications
- Run Application
- Open Recent
- This Computer
- Find Files...
- Preferences
- Help
- Lock Screen
- Log Out surdt2

- Accessories
- Games
- Graphics
- Internet
- Multimedia
- Office
- Other
- System Tools

- Diagram Editor
- Image Editor
- Image Organizer
- Image Viewer
- PDF Document Viewer
- PostScript Viewer

Sun Java™ Desktop System

Launch

1:13 PM



Sun Java Desktop System

- Complete desktop for the average user - initially aimed at groups
- Mail, Documents, Browser
- Linux ready-configured for today's world (IM, Multimedia, Security)
- Easy to own, cheap to run
- A place to use Java applications

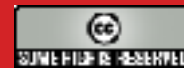
Summary

- Massively Connected Waves Breaking
 - The changes we see are inevitable and ongoing
- Open Source - the methodology of the massively-connected era
 - Diversity is our strength
- The river of freedom is many rivers
 - Development \neq Deployment
 - Standards + Open Source + Interop = Freedom

Thank-you!

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