A Practioners Guide to Ecosystem Development

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What will you learn?

- What an software business ecosystem is
- Why it matters to your business
- Some thoughts on why open source accelerates ecosystem creation
- Some lessons hard learned by someone who does this for a living
Why do you care?

Because picking your ecosystem and your role in it is perhaps the single most important decision you can make in your new software business.
Agenda

- What is Eclipse?
- Ecosystems
- The importance of platforms
- Open source ecosystems
- Lessons learned
The Eclipse Development Platform

- Used by 4.0 million developers worldwide
  
  *Evans Data, July 2008*

- Supports Java, C/C++, PHP, Python, Ruby, Rcl, Ajax, COBOL, Ada, Fortran, ....

- Delivers OSGi-based runtime technologies that runs on devices (Nokia S60), desktops (Lotus Notes) and servers (WebLogic, WebSphere)
The Members of Eclipse

- 182 members
  - 20 Strategic Members

- 923 committers, representing 50+ organizations

*Strategic Members*
Agenda

- What is Eclipse?
- Ecosystems
- The importance of platforms
- Open Source ecosystems
- Lessons learned
You Already Know These…
And They Can Be Big!

<table>
<thead>
<tr>
<th>Domain</th>
<th>Number of Firms</th>
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<tbody>
<tr>
<td>System Integrators</td>
<td>7,752</td>
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<tr>
<td>Development services</td>
<td>5,747</td>
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<tr>
<td>Campus resellers</td>
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<tr>
<td>ISVs</td>
<td>3,817</td>
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<tr>
<td>Trainers</td>
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<td>Breadth VARs</td>
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<tr>
<td>Small specialty firms</td>
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<tr>
<td>Top VARs</td>
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<td>Hosting service providers</td>
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<td>Internet service providers</td>
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<td>Business consultants</td>
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Why do they exist?

- Competition is now based on continuous innovation, not efficiency and effectiveness
- Companies are defined by their innovation trajectory, not their current products
- No firms have the skills or resources to do everything – need to organize for co-evolved innovation
What is an Ecosystem?

Space

Niches

Complementors

Platform
The Current Example

Niches

Complementors
Definition

“Business Ecosystems” are defined as intentional communities of economic actors whose individual business activities share in some large measure the fate of the whole community…. establish business ecosystems to co-evolve innovation across complementary contributions arising within multiple markets and hierarchies

*Business Ecosystems and the View From the Firm*
James F. Moore, Antitrust Bulletin, Fall 2005
Definition

communities economic actors
business activities

co-evolve innovation
complementary
A Form of Economic Organization
Hierarchies
Markets – Competing Hierarchies
Ecosystems ~ Supply Chains

- Multiple players in each niche
- Underestimate cost/time to coordinate interdependences
- Reducing development time may not give company much
- Company depends on deployment of complementors’ offers, each of which can close window of opportunity
- Joint probability of partners being ready at same time is low, even when each individual probability is high
  - Each of five suppliers has an 80% chance of being ready at T, how confident can they be of all five being ready at T?
  - \(0.8 \times 0.8 \times 0.8 \times 0.8 \times 0.8 = 0.33\)
Key Concepts

- Co-ordinate and co-evolve innovation
- Alignment of vision
- Degrees of openness in niches
- Degrees of modularity, openness in platform
- A network of niches
Some examples

<table>
<thead>
<tr>
<th></th>
<th>Co-evolved Innovation</th>
<th>Vision</th>
<th>Niche Openness</th>
<th>Platform Openness</th>
<th>Platform Modularity</th>
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Measuring the Health of Ecosystems

- **Productivity (of the Ecosystem)**
  - Means how much value is being created in the ecosystem
  - Taking raw materials (time, skills, tools) and converting them into something more valuable (better tools, applications, innovations)

- **Robustness**
  - Means how durable and able to adapt is the ecosystem to external events

- **Niche Creation**
  - The ability to expand the ecosystem with meaningful diversity

*The ecosystem “keystone” is responsible for maintaining this health.*
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Space

Niches

Complementors

Platform

We are here
Platform Leadership

- Scope of the firm
  - Platform, wannabe, or complementor

- Platform technology
  - Modularity, openness

- Complementor relationships
  - Partners or prey?

- Internal Organization
  - Culture, processes
The Eclipse Experience – Platform Modularity

Ease of Integration and Extensibility Spurs Innovation

New Plug-ins are First Class Citizens – same footing for everyone

Competition can take place on implementations – users decide winners

Open API and commercially friendly licensing – Low barriers to Entry

Successful Ecosystems are built on this model!
Foundation platform is the

Combined base of:

- Technologies
- Architectures, designs and assets used to build market offers
- Components, products and services
- Legal and licensing framework
- Processes

which anchors economic community

Existing open source organizations provide these “out of the box”
Summary: Your Ecosystem Checklist

- Vision
- Space
- Platform
- Continuous and co-evolved innovation
- Keystones
- Niche
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You Already Know These…
Open Source Platforms

- Open Source development model encourages open innovation
  - Openness, Transparency, Meritocracy
  - Anyone can participate

- Open Source licensing allows competing vendors to collaborate on the infrastructure technology
  - No requirement for royalties.
  - No single control point of intellectual property

- Open Source business model encourages rapid adoption of technology
  - It is free and easy to access
Win by letting go

- No control points
- Open governance
- Vendor neutral
- Code rules

...attracts the broadest and deepest participation
Unique Benefits

- The power of the ecosystem keystone being a non-profit is huge
  - Vendor neutral
  - Trusted agent
  - Force multiplier
Business Drivers for Collaborative Platform Evolution

- Define **very** precisely what your competitive differentiators are for your customers or you’re going out of business
- *Focus all possible energies there, and acquire everything else from OSS, or help build it in OSS*

![Diagram](Image)
Or in other words…

Co-evolve the platform in collaboration with other actors in the ecosystem

Pick your niche
Collaborating on the Platform – Innovation Networks

Open Innovation is a paradigm that assumes that firms can and should use external ideas as well as internal ideas. ... The Open Innovation paradigm treats R&D as an open system.

Open Innovation is sometimes conflated with open source methodologies for software development... While open source shares the focus on value creation throughout an industry value chain, its proponents usually deny or downplay the importance of value capture.

Open Innovation: Researching a New Paradigm
Collaborating on the Platform – Innovation Networks

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Innovation Networks in Action: The Eclipse Web Tools Platform Project

JBoss Studio
NetWeaver Studio
MyEclipse
CodeGear JBuilder
WebLogic Workshop
Zend Studio
Creating an Innovation Network

- Requirements include:
  - Licensing model for sharing co-evolved innovation
  - Project model for coordinating investments and activities
  - Governance model to ensure a level playing field for all participants
  - Technical architecture for the platform

*Existing open source organizations provide these “out of the box”*
Open Source Business

- Deliver multiple types of revenue upside at lower cost on *multiple product lines* because of open source agility
  - Open source allows “innovation by integration,” fast creation of new products by integration of piece parts from elsewhere, rather than requiring top-to-bottom development project.

- Open source provides an architecture for driving more product innovations faster than competition.
  - Innovation-by-integration enables new entrants to enter market easily with specialized niche or customized solutions, enhancing value of overall ecosystem and profits for niche vendors.

- Open source enables you to win market share against competitors that you couldn’t previously win market share against.
Open Source Business

open source agility
innovation by integration

innovations faster
enables new entrants
enhancing value of
overall ecosystem
profits for niche

win market share
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Ecosystems ultimately exist to drive value to their participants
Building trust
The value of the ecosystem is its network value
The platform is key
Multi-player platform leadership
Platform evolution is scary hard
Free advice:

Everyone wants to be a platform
There are many filthy rich companies living in niches
Conclusions

- Ecosystems define the software industry
- You need to know your ecosystem and your role in it
- Open source ecosystems solve some very specific business requirements
- Managing the evolution of an ecosystem is incredibly complex and fun
Thank You!

Questions?