

A Practitioners 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)

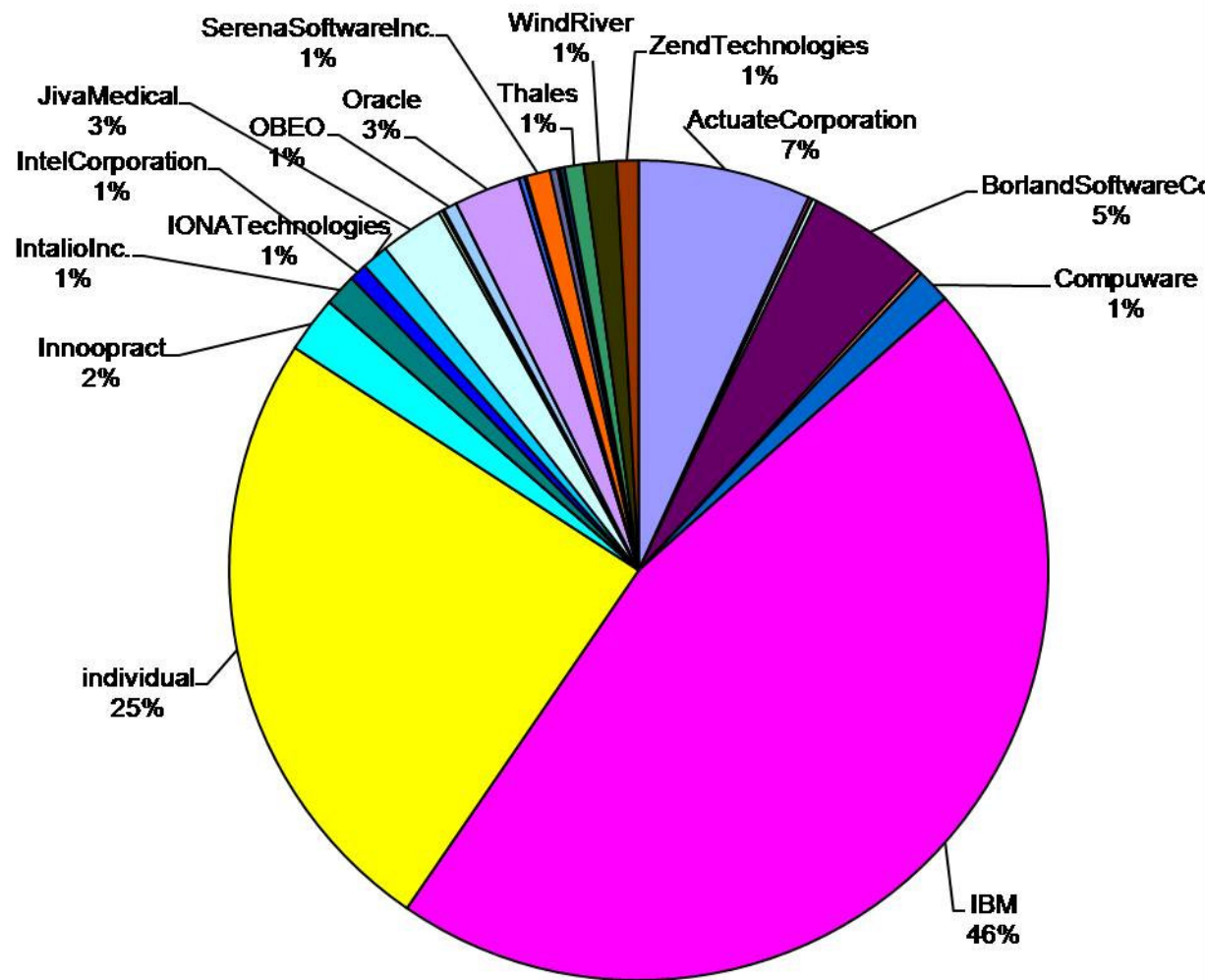
The Members of Eclipse

- 182 members
 - 20 Strategic Members
- 923 committers, representing 50+ organizations

Strategic Members







- Actuate Corporation
- Anyware Technologies
- ARML Limited
- BEA
- Borland Software Corp.
- Cloudsmith Inc.
- Compuware
- Fujitsu Limited
- Hewlett-Packard Company HP
- IBM
- individual
- Innoopract
- Inpriva
- Instantiations Inc.
- Intali Inc.
- Intel Corporation
- IONA Technologies
- Jiva Medical
- Nokia
- Novell
- OBEO
- OpenMethods LLC
- Oracle
- Prosyst Software
- QNX Software Systems Co.
- Red Hat Inc.
- SAPAG
- SAS
- Scapa Technologies Limited
- Serena Software Inc.
- Sybase
- Symbian
- Telelogic AB
- Thales
- unknown
- Wind River
- Zend Technologies

2007



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- **Ecosystems**
- The importance of platforms
- Open Source ecosystems
- Lessons learned



<http://www.flickr.com/photos/idolenga/50866390/>



You Already Know These...



And They Can Be Big!



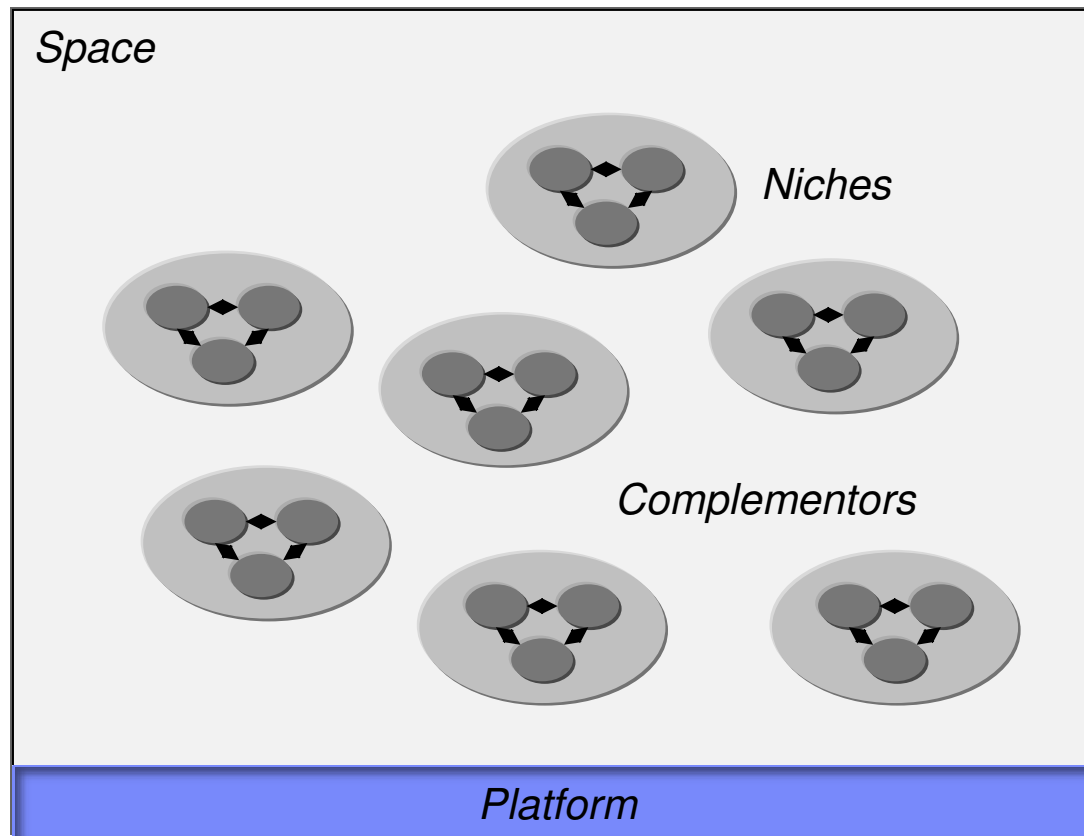
Domain	Number of Firms
System Integrators	7,752
Development services	5,747
Campus resellers	4,743
ISVs	3,817
Trainers	2,717
Breadth VARs	2,580
Small specialty firms	2,252
Top VARs	2,156
Hosting service providers	1,379
Internet service providers	1,253
Business consultants	938
...	

Ref: **“Strategy as Ecology”**, Marco Iansiti, Roy Levin, *Harvard Business Review*: R0403E

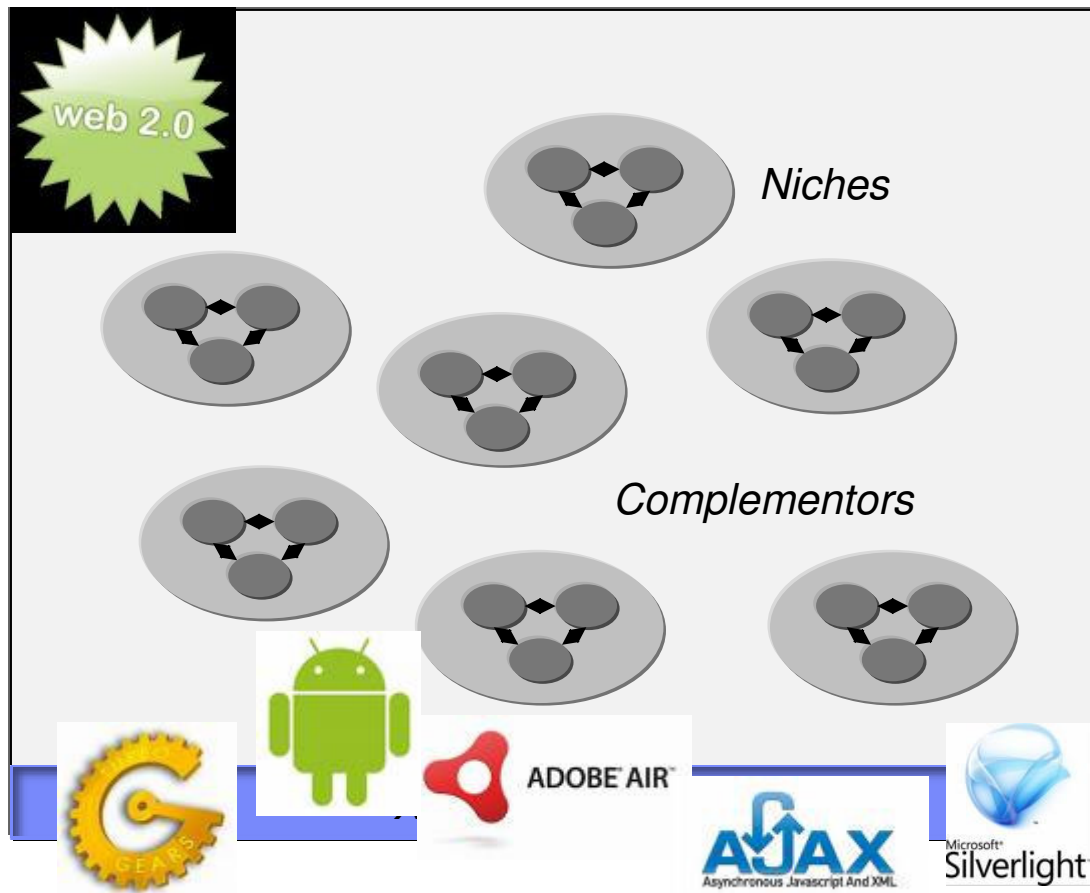
Why do they exist?

- 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?



The Current Example



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

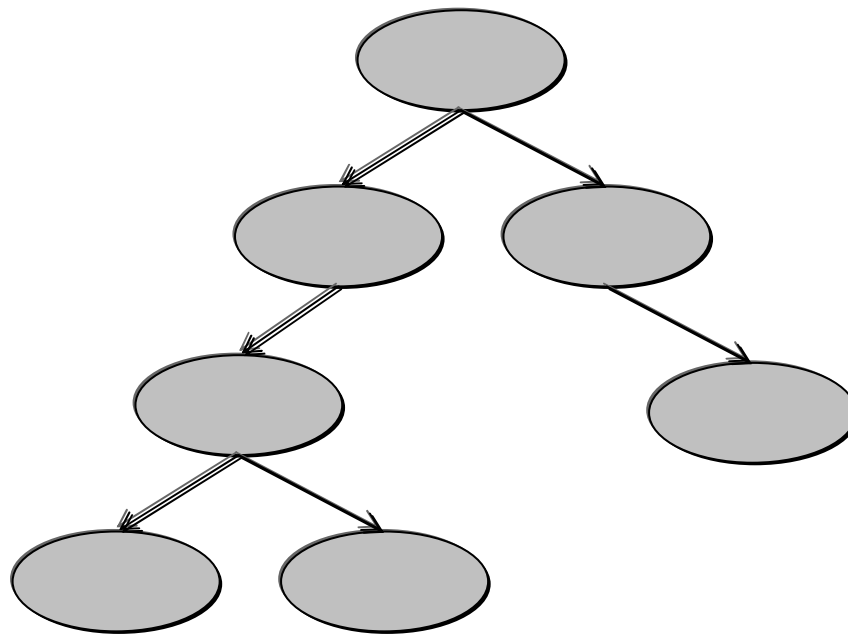
Definition

communities economic actors
business activities

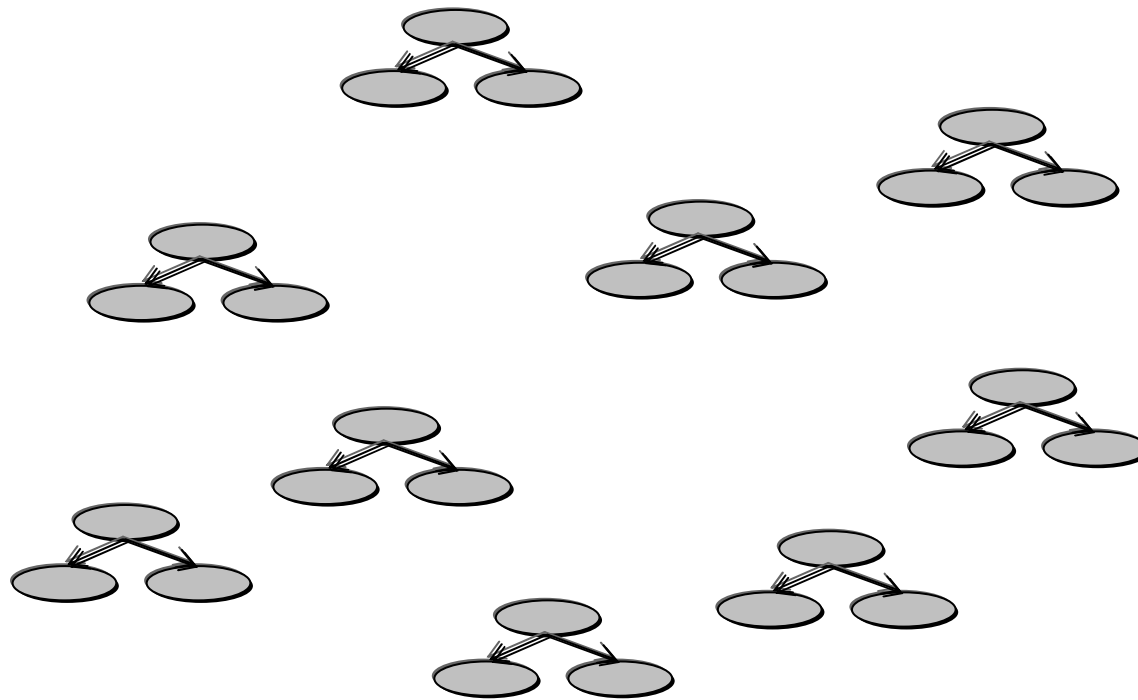
complementary co-evolve innovation

A Form of Economic Organization

Hierarchies



Markets – Competing Hierarchies



Ecosystems \approx 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?
 - $.8 \times .8 \times .8 \times .8 \times .8 = .33$



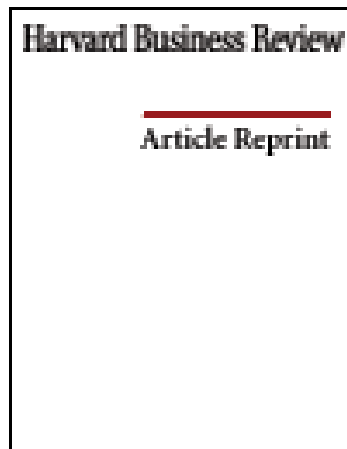
Key Concepts

- 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

		Co-evolved Innovation	Vision	Niche Openness	Platform Openness	Platform Modularity
			?		?	?
iPhone		X		?	--	?
						
Android		?	?		? 	?
Windows			?		--	

Measuring the Health of Ecosystems



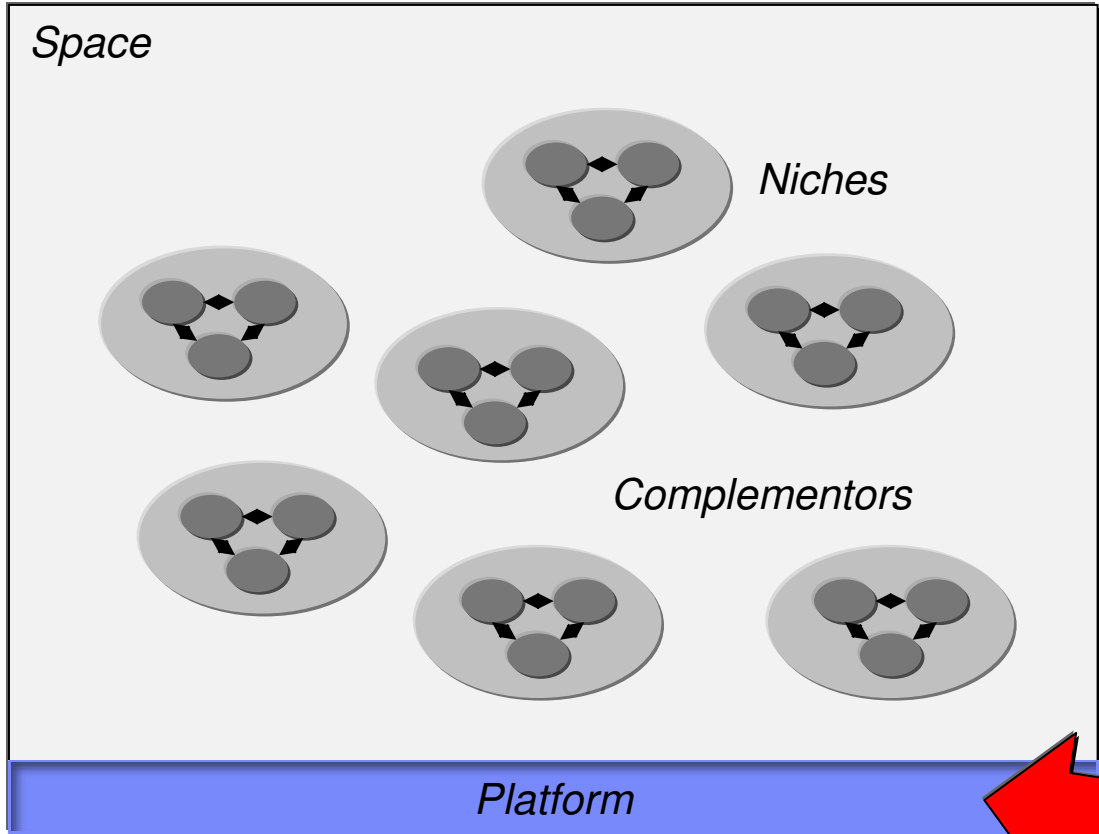
“Strategy as Ecology”
Marco Iansiti, Roy Levin
Harvard Business Review

- **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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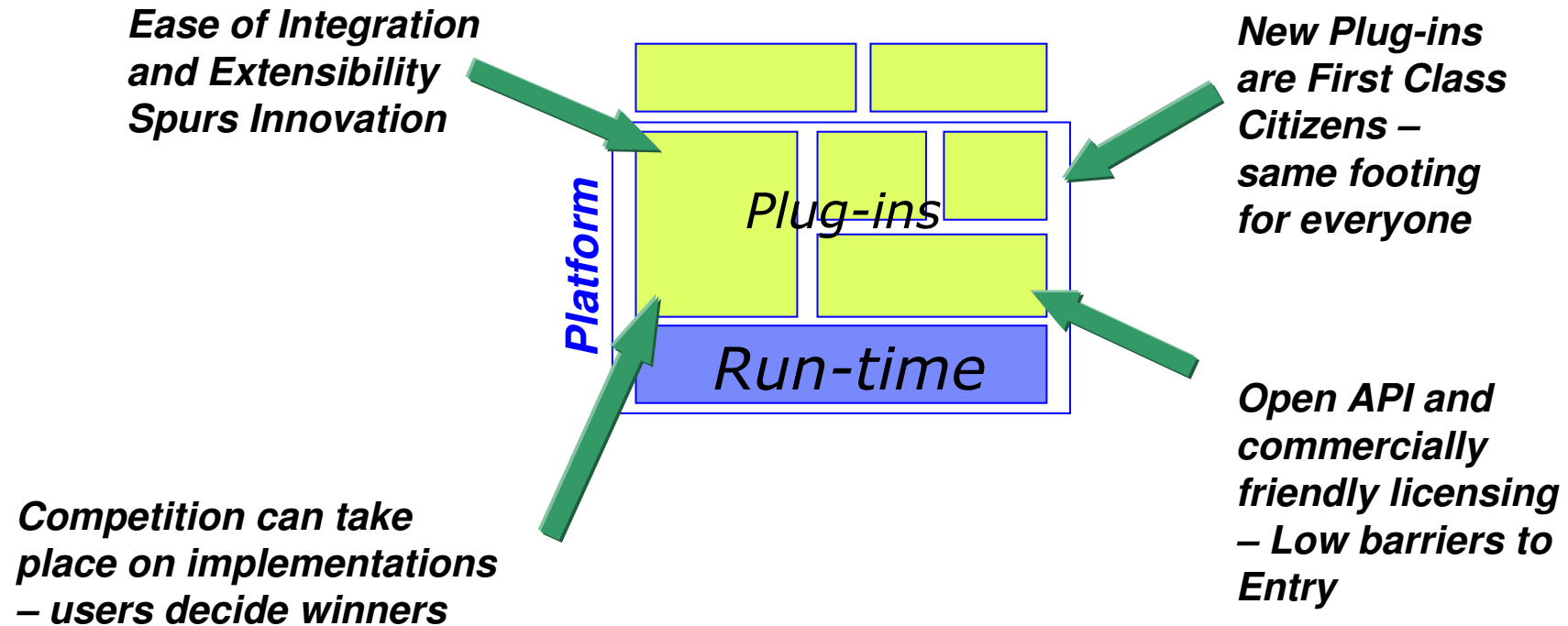
We are here

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



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

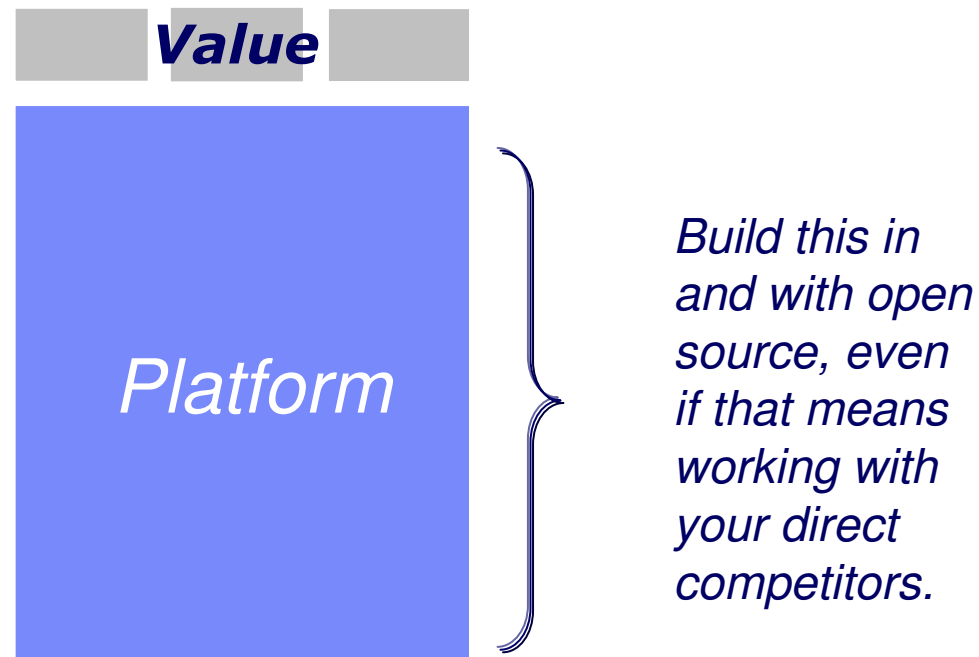
- No control points
- Open governance
- Vendor neutral
- Code rules
- ...attracts the broadest and deepest participation

Unique Benefits

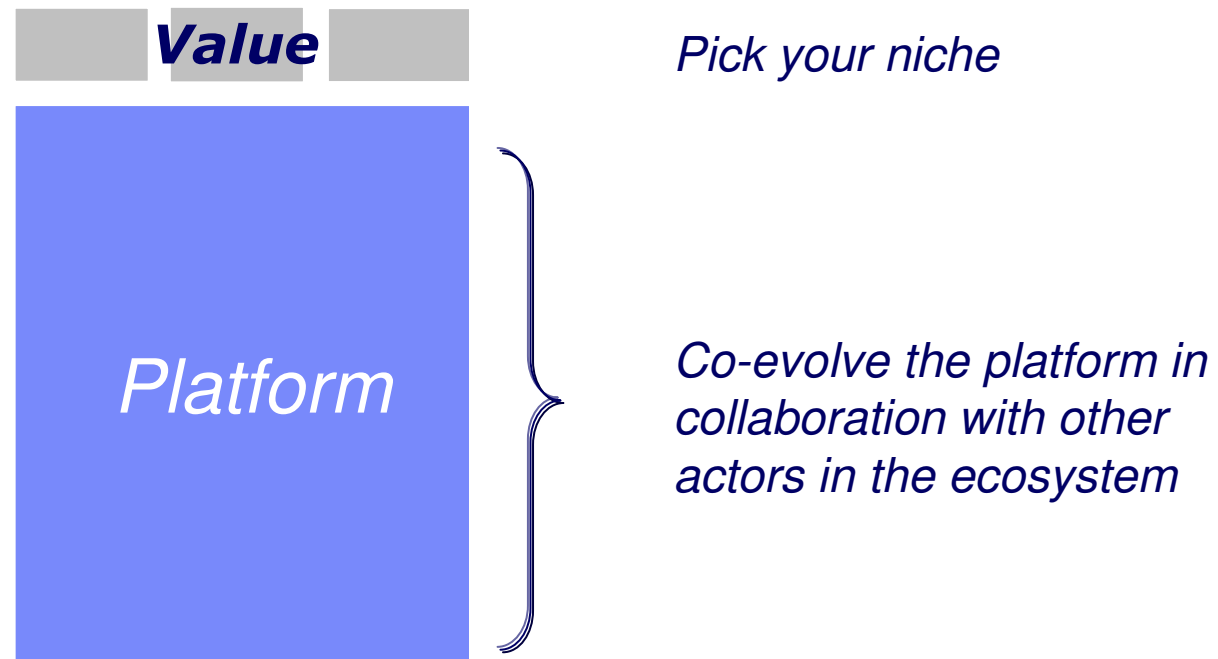
- The power of the ecosystem keystone being a non-profit is huge
 - Vendor neutral
 - Trusted agent
 - Force multiplier

Business Drivers for Collaborative Platform Evolution

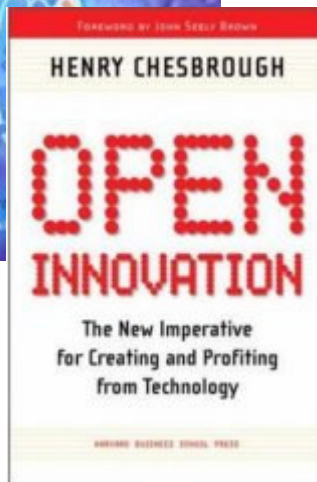
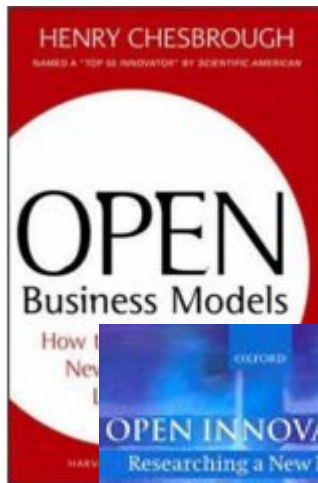
- *Define very precisely what your competitive differentiators are for your customers or you're going out of business*
- *Focus all possible energies there, and acquire everything else from OSS, or help build it in OSS*



Or in other words...



Collaborating on the Platform – Innovation Networks

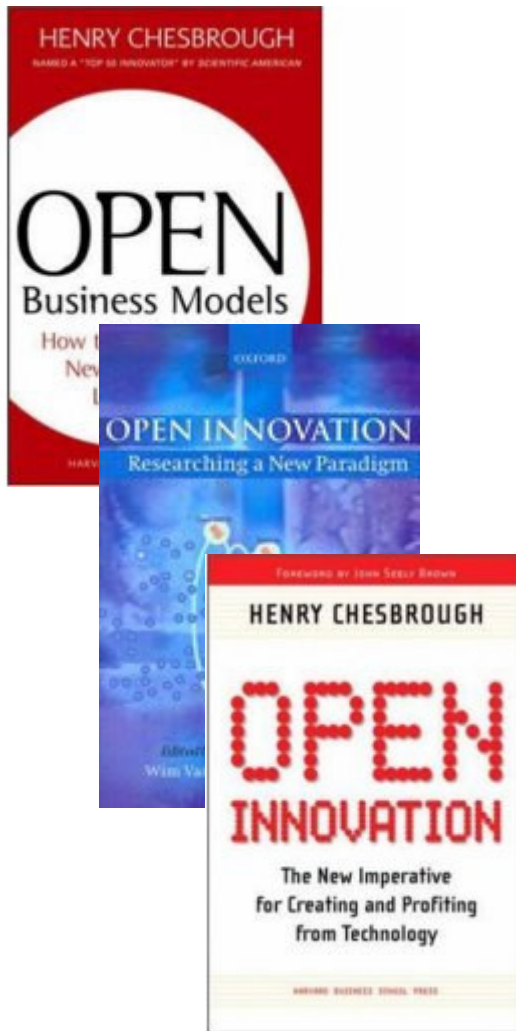


Open Innovation is a paradigm that assumes that firms can and should use external ideas as well as well as internal ideas.... The Open Innovation paradigm treats R&D as an open system.

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



its proponents usually deny or downplay the importance of value capture.

Innovation Networks in Action: The Eclipse Web Tools Platform Project



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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- **Lessons from Eclipse**

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?