

# Open Source Labor Economics

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**FOSS C07**

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# Linus Torvalds

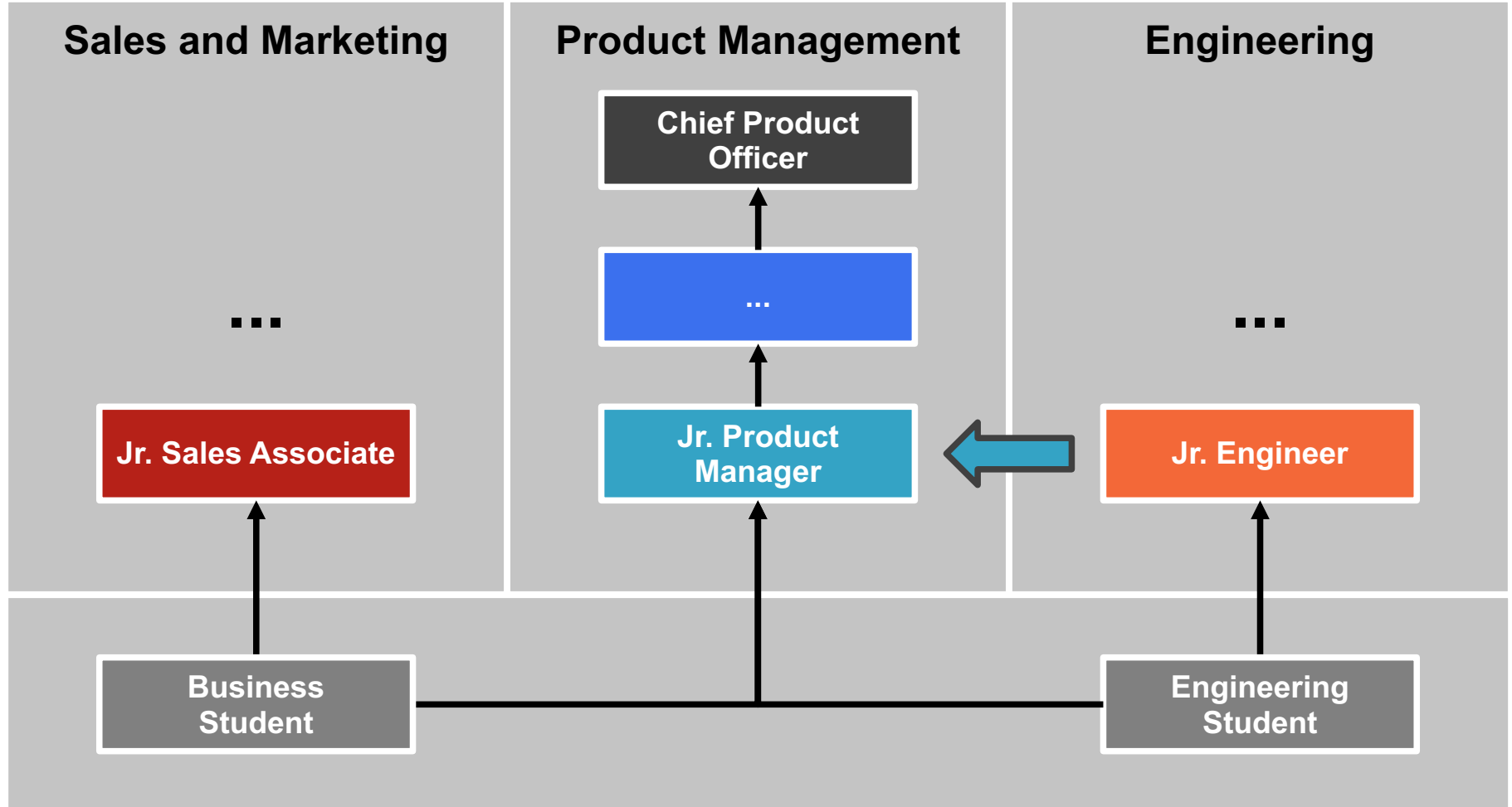
**Why you should choose a career  
in Linux and open source**



# Video Lesson

- Traditional motivations for participating in open source
  - Do something good (altruism)
  - Learn something
  - Have fun

# Traditional Developer Careers







# Hiring Developers (Erich Gamma)


“[...] when I received the first job application with a link to a code contribution to an open source project, I immediately followed the link, reviewed the code, invited the candidate for an interview round, and eventually made an offer. A link to **a code contribution to an Open Source project is a great differentiator in a job application**, in particular when you have to select among a large number of applications.”

Erich Gamma [R15a]


# Committers in Your Network



 committer   Advanced




Championing Open Source and Everything-as-a-Service - Cloud Computing, SDN and DevOps  
Raleigh-Durham, North Carolina Area • Computer Software  
▶ 29 shared connections • Similar •  500+



Current: **Committer** at Apache CloudStack




**Philippe Ombredanne**   
CTO and co-founder, nexB Inc. Open source enthusiast, hacker and entrepreneur, software librarian, code detective.  
San Francisco Bay Area • Computer Software  
▶ 13 shared connections • Similar •  500+



Current: **Committer** at The Eclipse Foundation



**Martin Lippert**   
Principal Software Engineer at Pivotal Inc.  
Hamburg Area, Germany • Computer Software  
▶ 52 shared connections • Similar •  500+

Current: **Committer** on Equinix Weaving at Open Source



**Henri Yandell**   
Open Source Architect  
Greater Seattle Area • Computer Software  
▶ 10 shared connections • Similar •  500+

Current: **Committer/Member** at Apache Software Foundation

# Example (LinkedIn) Resume

Home Profile Network Jobs Interests



## Experience

### Member of Technical Staff

Hortonworks

April 2012 – Present (2 years 2 months) | Bristol, England

Building the future of datacentre-scale applications on top of Hadoop.



### Member

Apache Software Foundation

March 2000 – Present (14 years 3 months)

Active committer in the Hadoop core project

Inactive committer on the Ant build & test tool.

Inactive committer on the Axis SOAP stack.



### Research Scientist

Hewlett-Packard Laboratories

1989 – March 2012 (23 years) | Bristol, United Kingdom

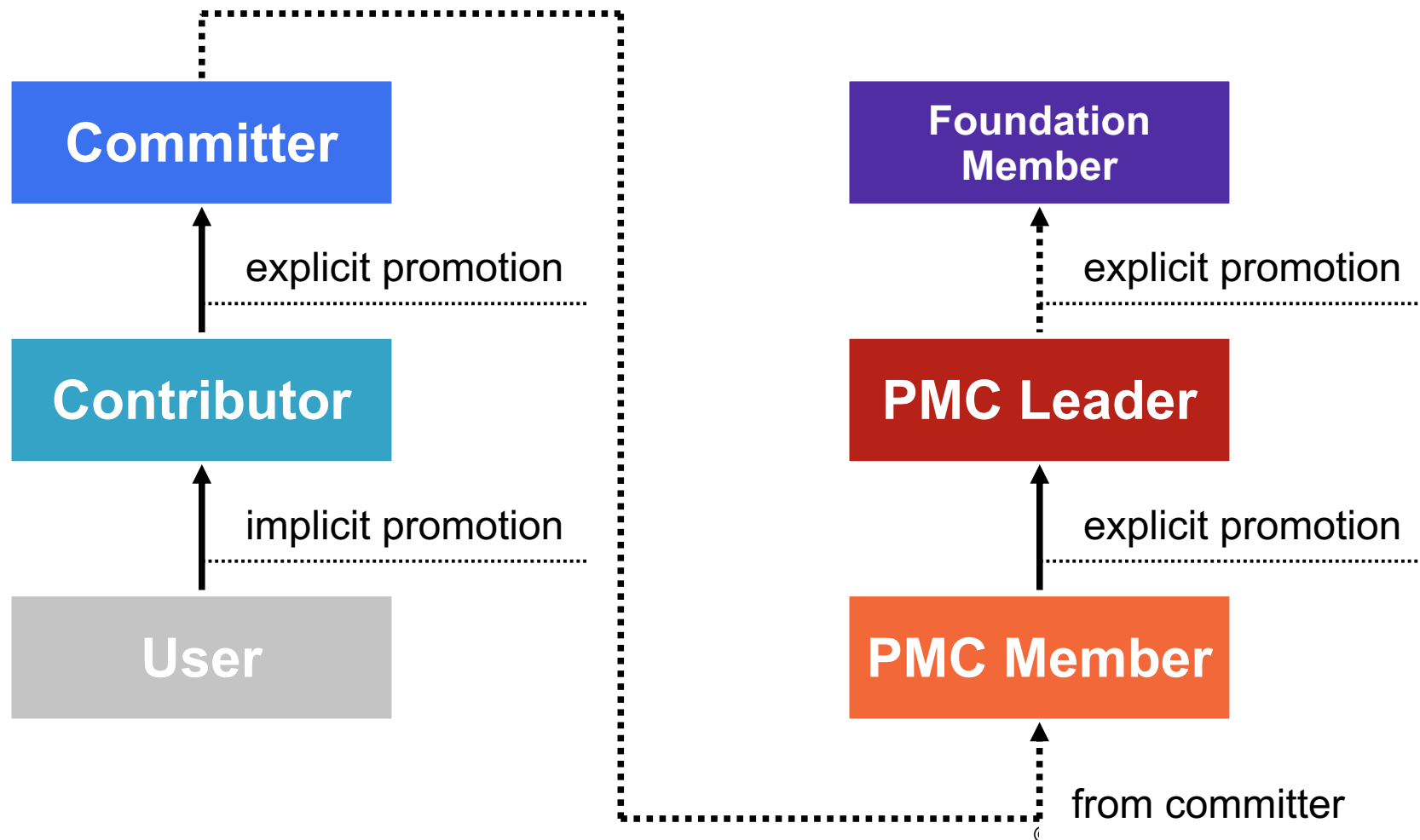
Current areas of research: the emergent open source datacentre-OS stack based on Hadoop; cloud infrastructures and deployment of the Hadoop stack on cloud platforms. Key operational challenges of testing, scalability, reliability, and operations, and that of making the application agile enough to work the dynamic infrastructures which I am helping to build.





- 1. Open source career stages**
- 2. Value creation, signaling**
- 3. Value appropriation**

# Open Source Developer Career Path



“Open source software is strategic to Google, and naturally **we hire a great number of open source developers.** Someone who demonstrates their ability by contributing to open source projects shows that **they are able to code in the real world** in ways other developers can not readily match. **It's the ultimate referral.**”

Chris DiBona [R15a]

- I. Verifiable **technical skills**
- II. Peer-confirmed **competencies**
- III. Position of **power and influence**

# Hiring Developers (Marten Mickos)

“From a software vendor’s perspective, open source work on a developer’s resume is a definitive plus. [...] **If the developer even contributed to our [open source] products, it increases their chance of being successful at our company:** Ramp-up time will be shorter and we know they are likely to be a better fit than an unknown developer. **All of this leads us to prefer open source developers when hiring.**”

Marten Mickos [R15a]

“When we look at a start-up, we look at the GitHub repositories, we look at Ohloh.net. **We drill down to the level of individual developers. It informs our investment decision. That fact alone gives open source software developers significant leverage when negotiating their position, salary, and benefits with startups.**”

Rachel Chalmers [R15a]

“Open source contributors tend to believe in and practice the values that characterize successful open source projects, such as **community, meritocracy and transparent government**. Hiring those people **strengthens those values within your corporate culture.**”

Robert O'Callahan [R15a]

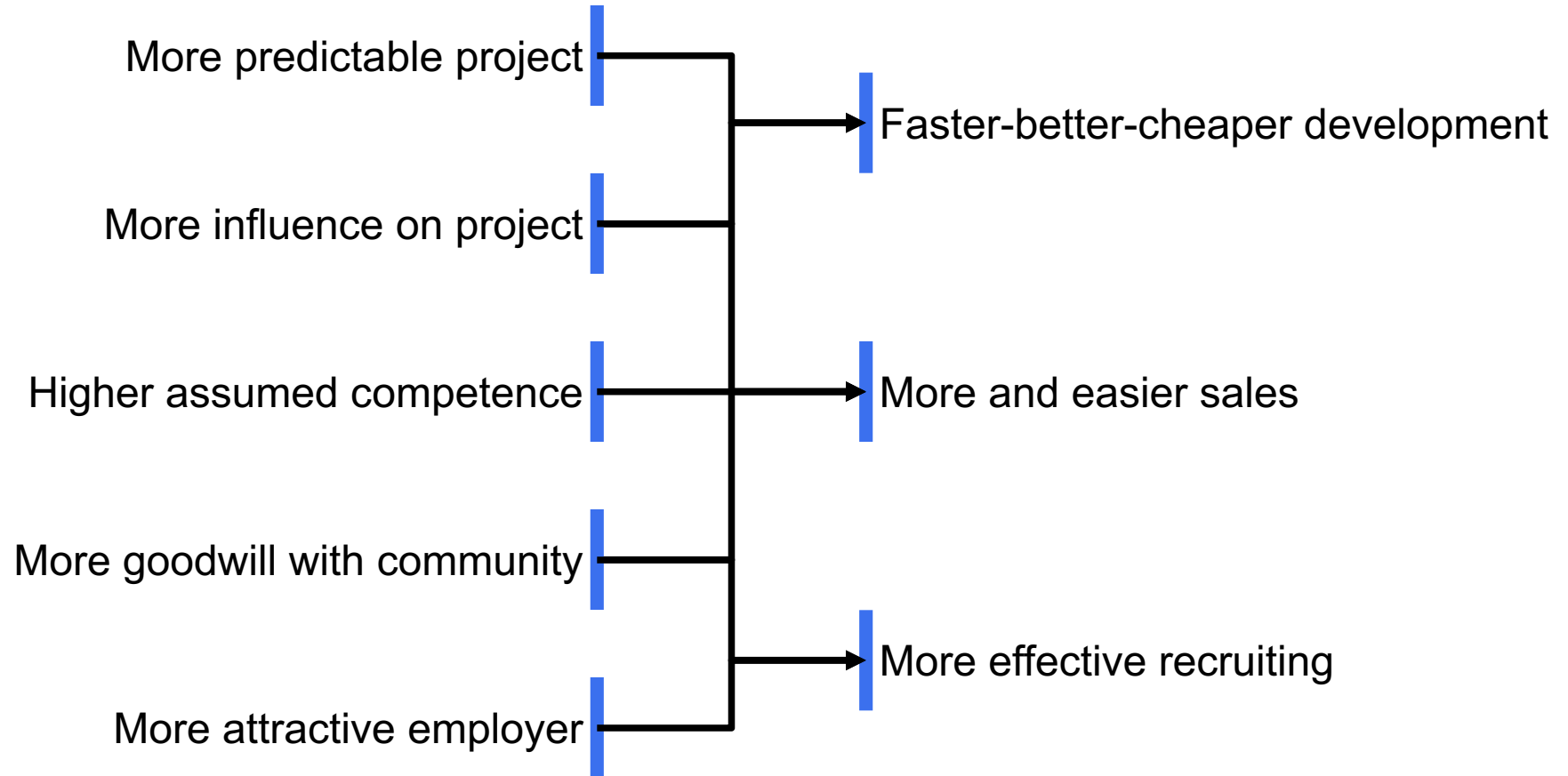
**“[...] the wage of contributors with rank committer or above is on average about 29% higher than that of [other] developers** after controlling for education, programming experience, work experience, job switch, and firm characteristics.” [H+02]



**“At the ASF, members of the Project Management Committee are recruited from the project contributors. As the recognized stewards of the project, all PMC members (including the appointed chair) wield significant power over the project through the power of the veto.”**

Justin Erenkrantz [R15a]

# Value of Position to Employer



# Relevance of Value to Employer

		Business Goal		
		Reduce Development Costs	Maximize Customer Exposure	Minimize Competition
Component Type	Proprietary Open Source	<b>Social leadership<sup>2</sup></b>	<b>Domain ownership<sup>2</sup></b>	<b>Copyright control<sup>2</sup></b> <b>Trademark control<sup>2</sup></b> <b>Development process<sup>2</sup></b>
	Community Open Source	<b>Social leadership<sup>1, 2</sup></b>	<b>Social leadership<sup>2, 3</sup></b> <b>Domain ownership<sup>3</sup></b> <b>Strategic positioning<sup>2, 3</sup></b>	<b>Trademark control<sup>3</sup></b> <b>Development process<sup>2, 3</sup></b> <b>Strategic positioning<sup>2, 3</sup></b>

<sup>1</sup> Closed source firm

<sup>2</sup> Single-vendor open source firm

<sup>3</sup> Open source distributor

“My contributions to the Eclipse project (2000-2007) resulted in a high visibility in the Eclipse affine developer community. Pretty much **every offer I received during these years from potential employers explicitly referred to my reputation in the Eclipse project.**”

Kai-Uwe Mätzel [R15a]

- 1. Higher salary**
- 2. Higher job security**
- 3. Richer job experience**

# How to Become a Committer?

- Achieving committer status is a communal process
  - Users work their way up from user to committer status
  - This builds reputation and reduces risk of wrong decision
  - Eventually, contributor is put up for committer status
  - Decision is typically made by vote of existing committers
- There is good and there is bad timing
  - A growing project needs more people, will give more responsibility early on
  - A mature project with slowing growth rarely needs more committers
  - Try to get in early when every helping hand is needed
- The prospective committer's dilemma: Which project to bet on?

# Conclusions

- A new career path has emerged
  - It is related but different to prior paths
- Hypothesized effects on careers
  - In the short-run, open source developers may improve their wages
  - In the long-run, some form of peer confirmation becomes a must
- Effects on developer labor market
  - Reduced barriers to market entry make life harder for developers
  - The way out is to become a committer, but that is a scarce status
  - Committers to relevant open source projects can benefit significantly

# Review / Summary of Session

- Developer engagement
  - Career stages
  - Value and signals
  - Value appropriation
- Value to company
  - Faster-better-cheaper development
  - More and easier sales
  - More effective recruiting
- Value to developer
  - Higher salary
  - Higher job security
  - Richer job experience



# Thank you! Questions?

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