

The Convergence of Open Source and Open Standards

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Technology Standards

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What's Going On?

- Dramatic increase in formation of highly resourced open source projects
- Fundamental shift to using open source development to solve many problems that standards used to solve
- Concurrent efforts continue in existing and new standards organizations (e.g., IoT, Cloud)
- Evolution of IPR rules and policies that do not optimally interface with SSO IPR rules

What's being Created?

- Very large, very powerful code bases capable of performing mission critical tasks
- Instead of standards to create products, it's the product itself
- Licensed on an open source basis
- Regularly updated
- Per company development costs are dramatically reduced
- Time to market is rapid
- Integration up and down the stack is ongoing

What about Interoperability?

- Interoperability results from cooperation with related projects rather than from standards
- Interface standards may develop later, perhaps on a de facto basis
- Participants and decision makers often know little about standards
- Patent issues are handled on a very different, and less comprehensive, basis

Where is it Going on Technically?

- In areas like:
 - Cloud Computing
 - Network virtualization
 - Drones
 - Internet of Things
 - Encryption
 - High Performance Computing
 - Open Data
 - Containers
 - Mobile Operating Systems

Where is it Going on Organizationally?

- In a new tier of organizations that provides more support than traditional platforms, like Apache, Eclipse, GitHub
- Hosted by existing organizations (e.g., Linux Foundation)
 - Dedicated staff
 - Meeting planning and execution
 - PR services
 - Two-tier governance
- New, fully supported foundations (e.g., OpenStack)
 - Usually supported by an outsourced management company

How Many new Tier One Projects?

Year	New Open Standards Consortia	New Major OSS Projects
2015	10	17
2014	11	8
2103	8	5
2012	8	4

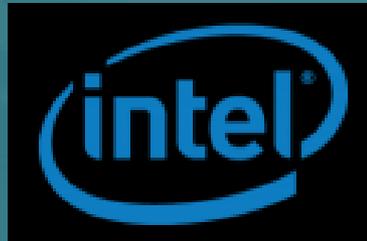
Why is it Going On?

- An example: IoT
 - Standards approach: Open Interconnect Consortium
 - OSS Approach: AllSeen Alliance
- Business goal is billions of devices and sensors everywhere
 - Must be very cheap
 - Must be truly plug, play (and forget!)
 - Must be widely interoperable
 - “Would you rather than a 300 page spec, or a little module of open source code for that lightbulb?”

How is it Going On?

- Typical project may have:
 - Dues ranging from \$5,000 to \$300,00 per year
 - A minimum two (or even three) year commitment
 - A commitment of several full-time developers per top level member (real cost: c. \$250k per developer)
 - Hundreds of members
 - Very rapid time to market; iterative code releases (typically every six months)
 - Ongoing cooperation with other related projects up and down the stack

Who's Involved? (And MANY More)



Is this a Blip or the Future?

- Just a Blip(?)
 - Unusual number of new architectural opportunities that lend themselves to OSS approach (e.g., IoT, Cloud, operating systems, networking)
 - Once these are built out, the desirability of the approach may go dormant until the next wave of disruptive change
 - Huge crop of new projects; not all may succeed, leading to possible second thoughts on approach

Is this a Blip or the Future?

- Future(?)
 - Just as applicable to pieces as pies
 - Approach will become increasingly institutionalized
 - More industry players will become comfortable
 - New generation of engineers is more familiar with OSS than with open standards
 - Old generation of standards professionals (and especially standards directors) is retiring and not being replaced
 - Industry increasingly refers to OSS as “standards”
 - Time to market can be faster with code than standards
 - Certification is now commonly being applied to OSS
 - Fewer product vendors and more service providers

Possible Research Opportunities

- Differential success rates of open standards vs. open source collaborations (And what does “success” mean? How many different things?)
- Where is one approach “better” than another?
- What factors persuade a firm to choose one approach over another?
- Is the restructuring of management and labor in OSS projects historically unique, or new wine in old bottles?

For further information:

- <http://www.consortiuminfo.org/>
- A Concise Introduction to Free and Open Source Software
<http://www.consortiuminfo.org/bulletins/aug09.php#feature>
- Standards MetaLibrary - 1,898 categorized, index abstracts
http://www.consortiuminfo.org/metallibrary/#.VypPMCE5V_Q
- Consortium and Standards List
http://www.consortiuminfo.org/links/#.VypQQiE5V_Q

DISCUSSION