Software R&D is More Important than Ever

- Software Abstraction
  - Hardware functions are increasingly being abstracted into software
  - Examples include: Server Virtualization, SDN, NFV, etc.

- Dominance of Open Source
  - Shared development is enabling faster time to market, higher quality, and lower cost.
  - Linux, Hadoop, OpenStack, OpenDaylight, Xen, KVM, etc.

- Software Talent War
  - Top software talent is at an all time premium.
  - Linux developers demanding premium over other programmers
  - Recent anti-trust case shows desperation in Silicon Valley.
The top ten tech companies spend over $63.4 billion on research and development.
1) Microsoft, $9B
2) Samsung, $9B
3) Intel, $8.4B
4) Nokia, $7.8B
5) Panasonic, $6.6B
6) IBM, $6.3B
7) Cisco, $5.8B
8) Google, $5.2B
9) Amazon, $2.9B
10) Apple, $2.4B
How are you managing your external R&D?
These Companies Have Large Dedicated Open Source Teams
Moving to Strategic Use of Open Source

- Average: 29%
- Best in class: 80% OSS

* Source: Gartner Group
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The results?

- Billions of dollars of free software harnessed to power core products and services.
- Business aligned with upstream projects enabling faster time to market.
- Interoperability with IT ecosystem.
- Leading edge on attracting top software talent.
“Over 80% of the software in our handsets is open source”

Carl-Eric Mols, Head of OSS, Sony Mobile Communications
“Today you can’t build a product without using open source software.”

- Samsung Electronics, May 5, 2014 Wall Street Journal
Even Apple...
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Open Source Collaboration Requires New Skills

**Strategic Analysis**
- Choosing best open source projects to meet goals
- License review boards
- What code to share and what code to keep

**Intellectual Property**
- Open Source License Management
- Contribution Agreements
- Trademark Licensing

**Development Process**
- Social coding style: GIT, email, IRC, etc.
- Project governance: contribution, maintainers, etc.

**Business Process**
- Downstream product integration
- Upstream code contributions
- License compliance
Mastering external R&D is essential

- Your industry peers are already doing this.
- By aligning external open source with your internal goals through direct investment you will shorten time to market and reduce cost.
- Visibility within the open source community is one of the best ways to recruit high level software talent which will be essential for competition.
Thank you.