



Samsung and the Path to Open Source Leadership

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Open Source in Samsung: A Historical Perspective



Getting a taste of Open Source (Embedded Linux)



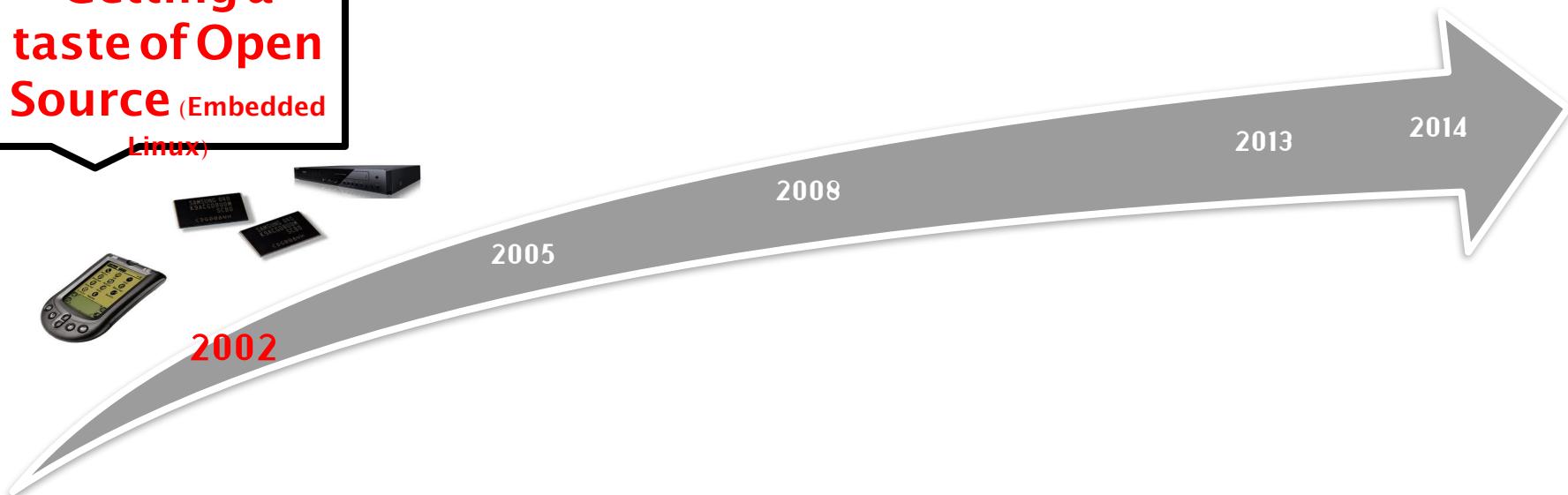
2002

2005

2008

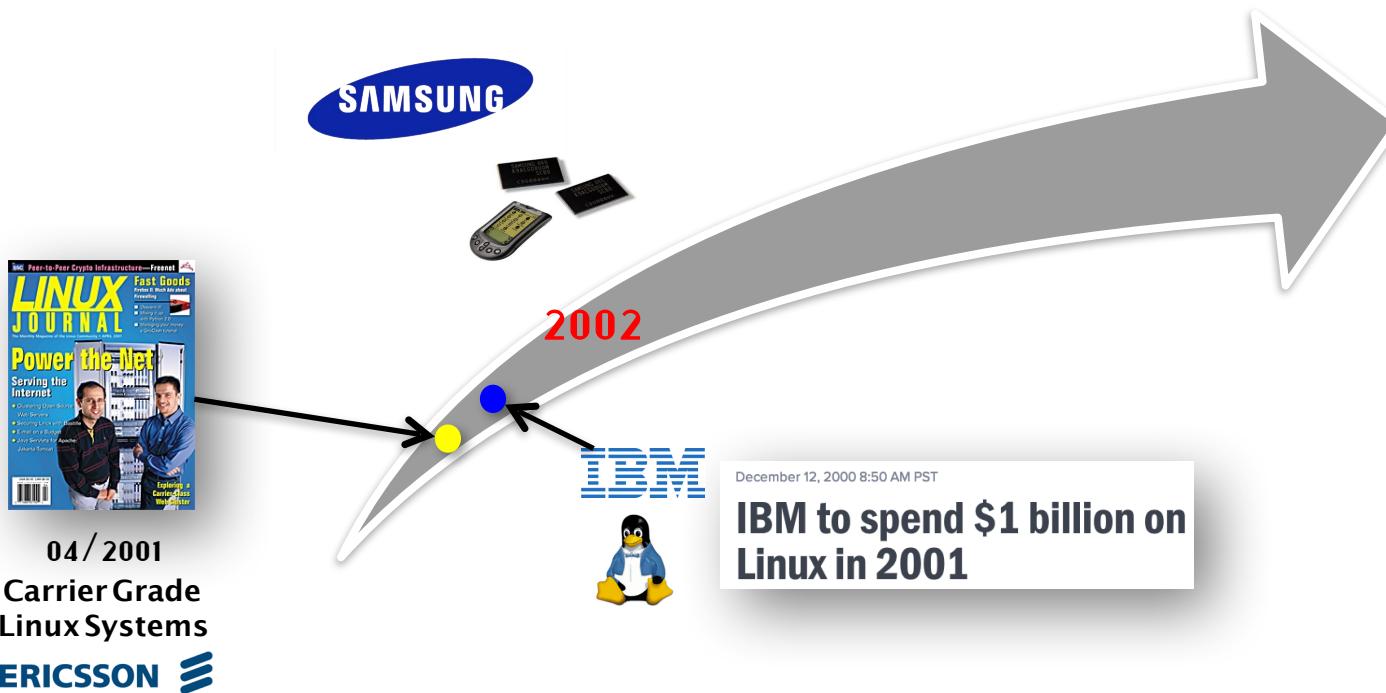
2013

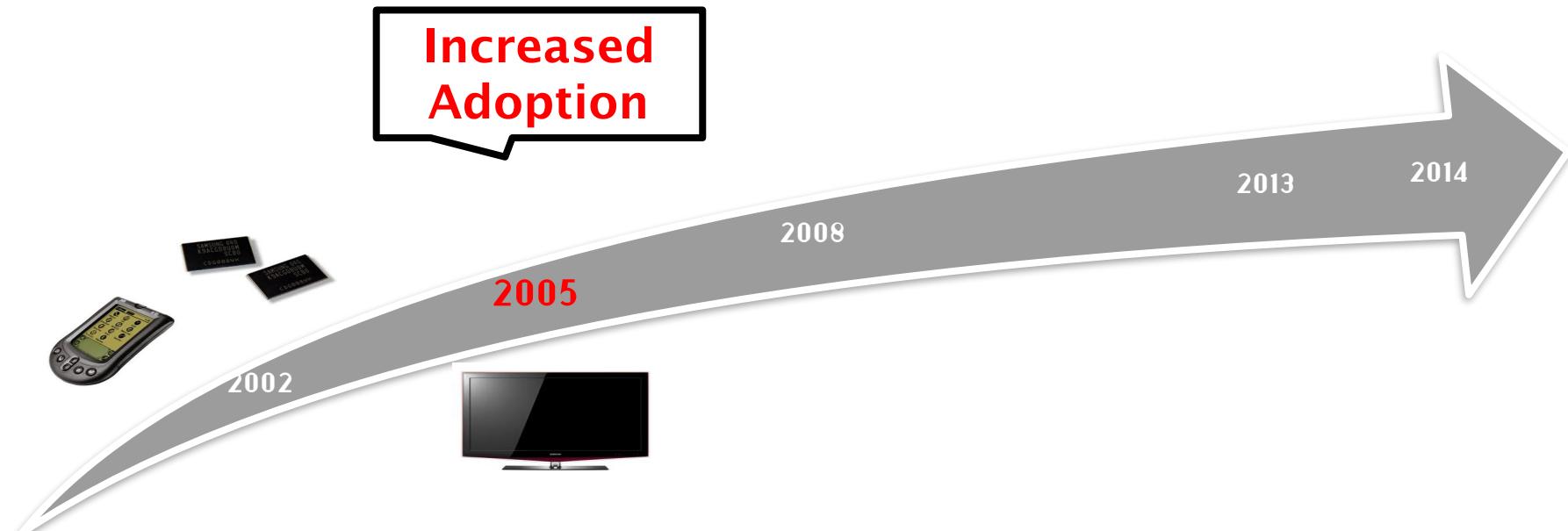
2014



Samsung vs. Other Players

[same time period]





Increased Adoption

2002

2005

2008

2013

2014

Increased Adoption (mid 2000s)

- 2 core needs drove Linux and OSS into Samsung:
 - Development Environment
 - Common Platform
- Example: Flat Panel Television Sets (Mass Produced)
 - Example challenge with Linux: Boot-time
- Diverging Products & Versions: $O(100)$ TV models / year



X

Kernel
Versions = Too
Many

Proliferation





Proliferation

- Increased importance of OSS (large scale adoption)
 - Sample products: Smartphones 213 M / Flat Panel TV 57 M
- More and more Samsung products shipped with OSS



Increased
Contributio
ns



2002

2005

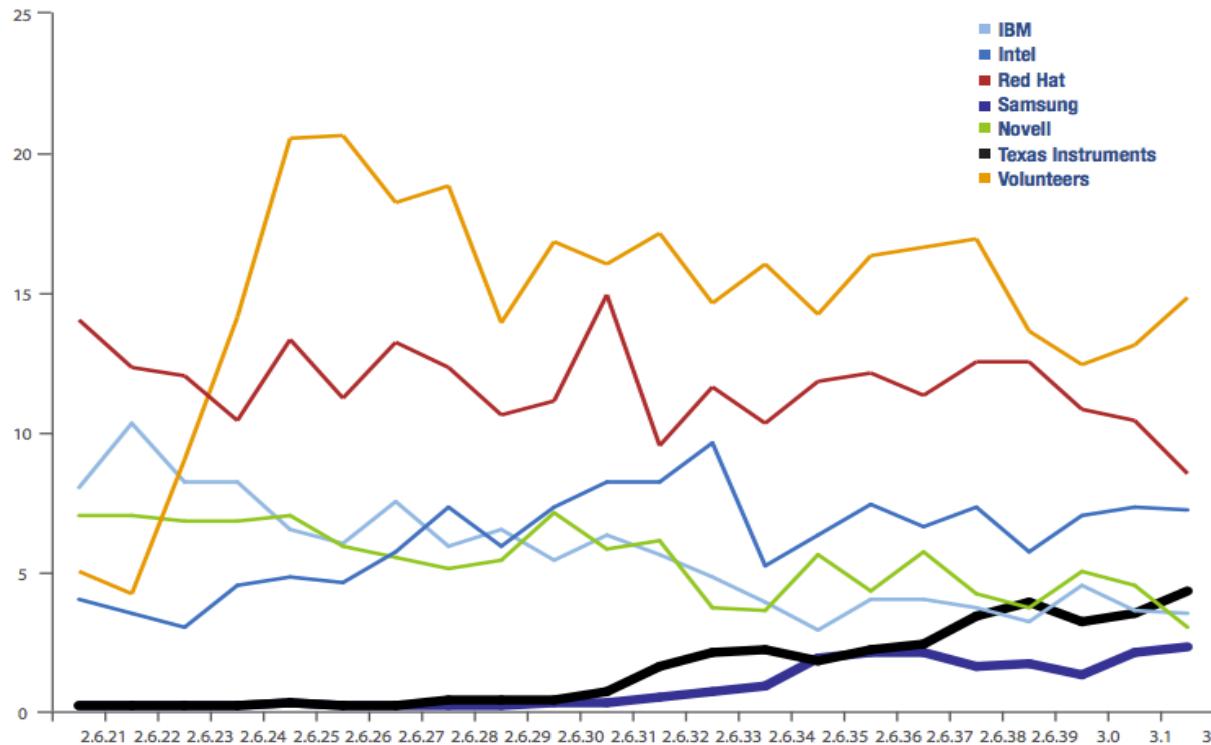
2008

2013

2014

Increased Contributions in Key Projects

Linux Kernel Example: April 2007 → Jan 2012



Source:

Linux Kernel 2012
Development Report by
The Linux Foundation
www.linuxfoundation.org

Covers Kernel Development
Statistics: 2.6.3 → 3.2

Overall Rank #27

Increased Contributions in Key Projects

Linux Kernel Example: 2013, 2014

State of Linux Development **2013**

Mobile/Embedded Companies Increase Investments in Linux, Move Up List

Top 10 Linux kernel sponsors since 2012

| | |
|---------------------|-----------------------------|
| 1 Red Hat | 7 Samsung |
| 2 Intel | 8 Google |
| 3 Texas Instruments | 9 Vision Engraving Systems |
| 4 Linaro | Consultants |
| 5 SUSE | 10 Wolfson Microelectronics |
| 6 IBM | |



Source: The Linux Foundation (Kernel Report 2013)



| | | |
|---------------------------------|------|-------|
| Intel | 1233 | 10.2% |
| (None) | 1075 | 8.9% |
| Red Hat | 877 | 7.3% |
| (Unknown) | 701 | 5.8% |
| Linaro | 528 | 4.4% |
| Samsung | 523 | 4.3% |
| SUSE | 396 | 3.3% |
| IBM | 351 | 2.9% |
| Renesas Electronics | 339 | 2.8% |
| Google | 324 | 2.7% |
| Texas Instruments | 288 | 2.4% |
| Vision Engraving Systems | 278 | 2.3% |
| (Consultant) | 268 | 2.2% |
| NVIDIA | 248 | 2.1% |
| FOSS Outreach Program for Women | 237 | 2.0% |
| Huawei Technologies | 211 | 1.8% |
| Freescale | 210 | 1.7% |
| Qualcomm | 157 | 1.3% |
| Oracle | 152 | 1.3% |
| Broadcom | 144 | 1.2% |

Source:
LWN.NET
March 2014

Establishing the Open Source Group

TIZEN™



2013

2014

2008

2005

2002



The Open Source Group

- A dedicated Open Source organization across Samsung Electronics whose goals are to:
 - Build & grow open source talent within Samsung in specific tech areas
 - Drive contributions upstream via a dedicated team
 - Help product teams in specific expertise area
 - Build a strong open source and contributor image via contributions
 - Manage relationships with open source organizations

Twitter: @SamsungOSG

SlideShare: Slideshare.net/SamsungOSG

Open Source Group – Non-Technical Focus

Strategy and Planning

Coaching / Advising

Team Building

Open Source Organizations

Internal Open Source Infrastructure

Open Source Development + Communities

Collaboration Culture Shift

Internal and External Visibility

Open Source Group – Technical Focus

Media

Cloud

Web

Virtualization

Graphics

System

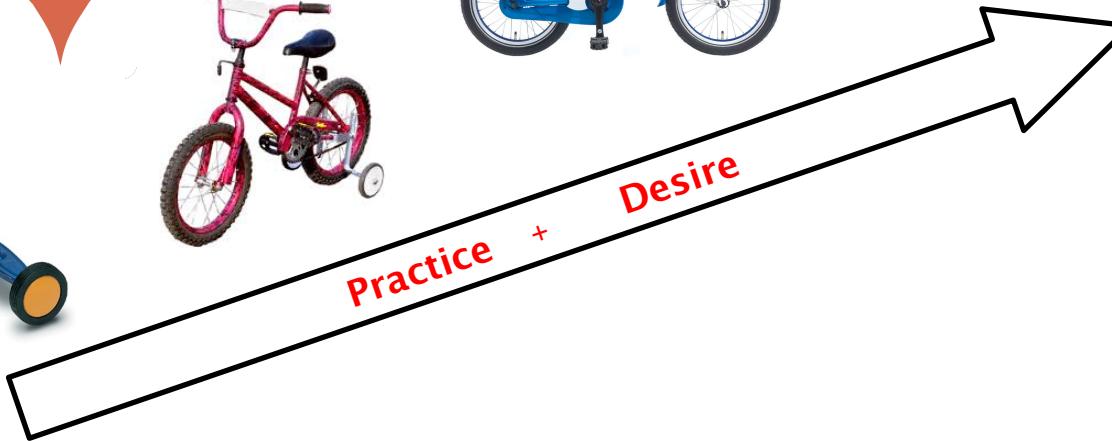


On a path, with a mission!



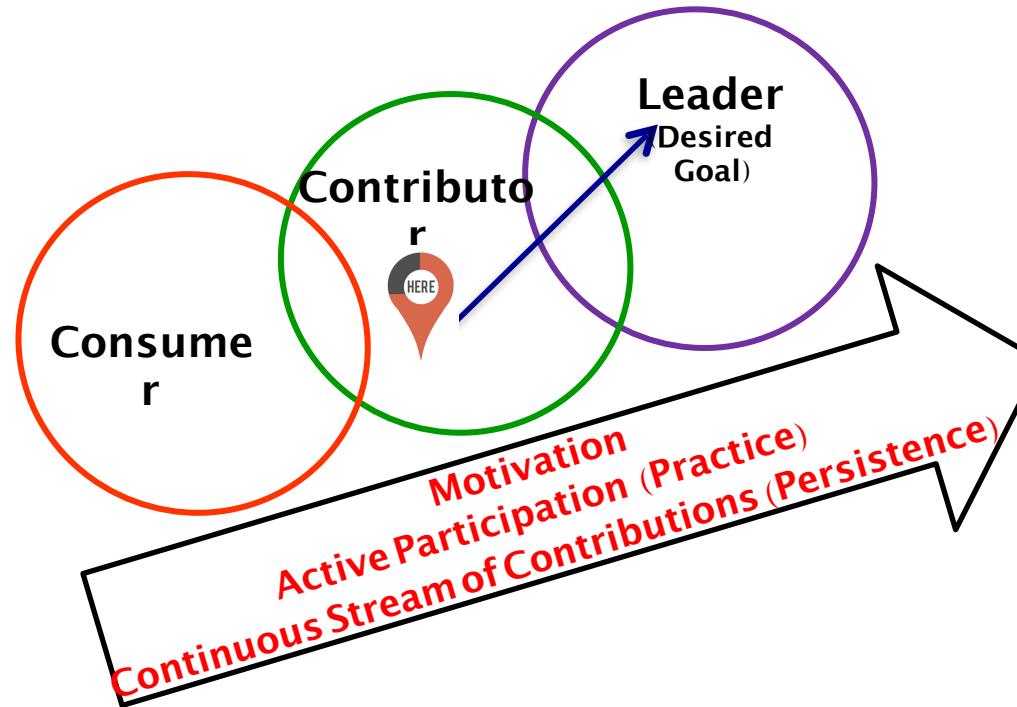


Practice + Desire



Following the Natural Path to Open Source Leadership

SAMSUNG



Open Source Leadership, Why?

1. Product Dependency on Open Source Technologies





2. Faster Path to Innovation

Commoditizing and freely sharing lower-level undifferentiated components of the stack is a better way of building products. When you do this you will force the business to differentiate at higher levels of the stack in more innovative ways (including new business models). It raises everyone's game.

3. Open Source is Eating the Software World

THE WALL STREET JOURNAL.

ESSAY

Why Software Is Eating The World

By MARC ANDREESSEN

August 20, 2011

**“If you are going to master software you must master open source.
It is hard to build something without open source code.”**

Jim Zemlin, Executive Director, The Linux Foundation

What differentiates all of these devices?



Software is where much of the value is created.

Software is a Core Competence.

It's not something you can always outsource, but it's something you need to collaborate on.





4. Towards a Software Driven Company

More emphasis on software innovation.

Challenges

“No one said it’s gonna be easy”



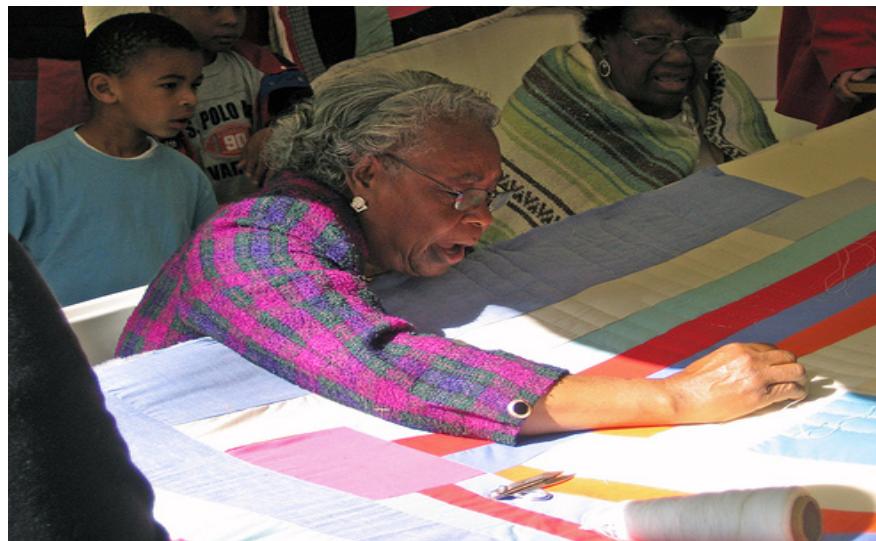
Challenges

- Re-focus / Re-prioritize
- Culture
- Education
- Infrastructure (Hard and Soft)
- Legal compliance at an industrial scale
- FUD (fear, uncertainty and doubt)

Learned Open Source Success Factors

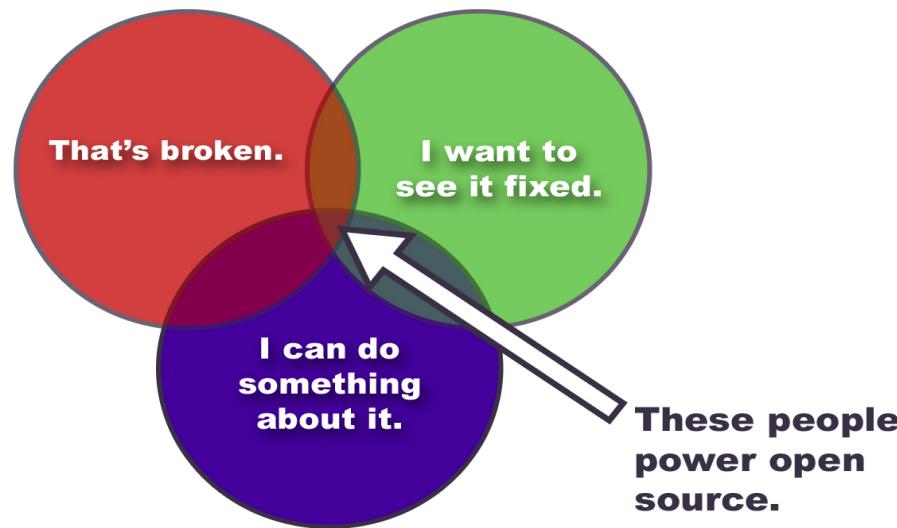
#5 Understand Contribution Rules

- Each open source community is different
- Contributions need to fit with other code/patches



#4 Understand Community Motivators

- Successful communities are powered by motivated people
- Motivation can be: status, peer recognition, money



#3 Avoid Custom Licenses

- Communities do not work well with custom licenses
- Gaining contributors/momentum requires low barriers to entry



<http://opensource.org/licenses/index.html>

#2 Communities Need Nurturing

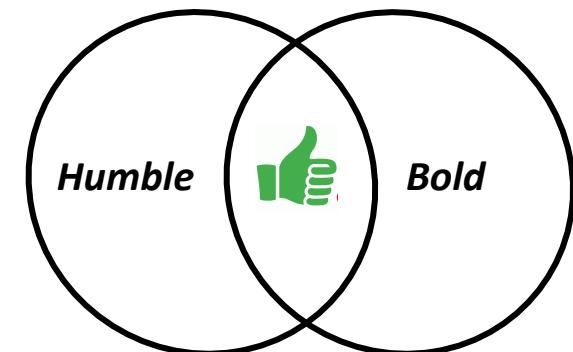
- Posting code to public sites is not collaboration
- Community participation is a cycle – expect change



From <http://blogs.zdnet.com/Hinchcliff>

#1 Be Humble, But Bold

- Community leadership is earned, not granted
 - Accept community feedback and rework code
- Bring technical expertise to the table
 - Contributions need to be ongoing to maintain leadership status



What to expect from us w.r.t. Open Source?

more



Thank you to all the open source developers – not just for the source code but also for inventing a better way to create software.

A photograph of a long, straight asphalt road stretching into the distance under a clear blue sky. The road is marked with white dashed lines. On either side of the road is a dry, brown landscape with low-lying shrubs and distant mountains under a clear blue sky.

Open Collaboration Changes
Everything

COMPUTERWORLD
OBC | **OPEN**
BUSINESS CONFERENCE

Cloud • Big Data • Mobile • Legal • Open Source



MAY 5-6, 2014

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