

# **GPL Licensing and Eco-System - An Open perspective from Huawei**

**Timo Jokiaho, Sanil Kumar D**

**3<sup>rd</sup> LinuxCon Japan, Yokohama**

**2011-06-01**

[www.huawei.com](http://www.huawei.com)

# What are we going to discuss...?

## GPL – The Right Sense

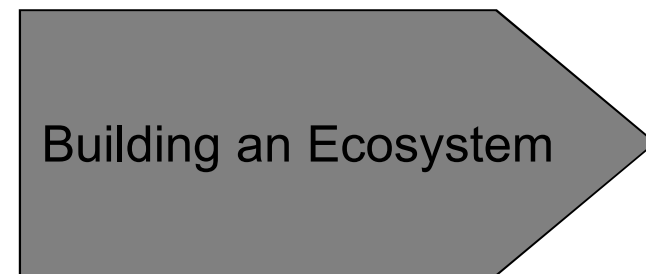
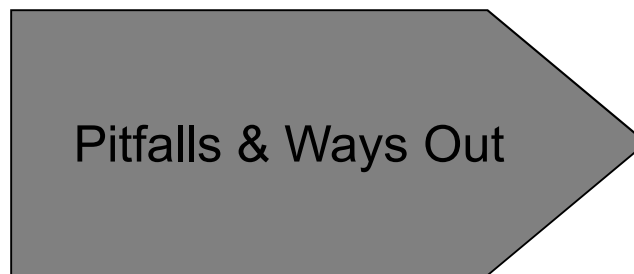
- ❑ Sense within the Basics
- ❑ Myths Demystified

## Pitfalls & Ways Out

- ❑ Pitfalls – Development
- ❑ Pitfalls – Business
- ❑ Ways out - Suggestions

## Building an Ecosystem

- ❑ Why an ecosystem?
- ❑ Creating a win-win model
- ❑ Initiatives from Huawei



# GPL – The Right Sense



Richard Matthew Stallman  
rms@gnu.org

"Free software" means software that respects the user's freedom"



## 4 FREEDOMS...

- To run the program**
- To study the source code and then change it**
- To distribute copies to others and**
- To distribute copies of your modified versions**

# 10 Commandments for Freedom!

- Free redistribution
- Access to the source code
- Right to change the source code and develop derived works
- Respect of the integrity of the author's source code.
- Forbidding discrimination against persons and groups
- Forbidding discrimination against fields of endeavor
- Universality of the rights attached to the program. (No NDA can override GPL)
- Protection of the program, and not of the product
- Lack of contamination of other products containing a protected source code
- Technological neutrality. The license cannot discriminate against any technology or style of interface



**versus**



- ❑ In order to protect authors of documentation or software from unauthorized copying or selling of their work.

- ❑ A copyright infers that only with the author's permission may such activities take place

- ❑ The source code and the freedoms are legally inseparable ; it provides the rights to share and modify!

- ❑ Anyone who redistributes the software, with or without changes, must pass along the freedom to further copy and change it.

- ❑ Copyleft guarantees that every user has freedom

# Myths Demystified

Myth/Mistake	Fact on Myths/Mistakes
You can't get support for free software.	One of the best supported softwares with developers and experts all over the world
Big companies don't use Open Source software	Most of the BIG companies are using open source! (Just see the LF member organizations!!!)
The most important thing is whether you modify the code or not!	Whether you modify or not, share when you release! No binary only release!
Free software, open source, shareware-all are same and interchangeably used	Each is different and right understanding is essential.
The GPL would not stand up in court OR we can have an NDA on top of GPL	GPL is legal license. GPL is an OSI approved license. No NDA can overrule GPL
If you release GPL software to your customer, you must publish the code to public community / to author of original code	If you release GPL software to your customer, you are liable to give the source to the customer (passing the freedom!) – not mandatory to share with the public domain

# Myths Demystified

Myth/Mistake	Fact on Myths/Mistakes
GPL Software cannot be charged or cannot be sold for money! OR Software licensed under the GPL explicitly forbids commercial use	GPL software can be sold! (no free beer or lunch!)
Loadable Modules can be proprietary and can be out of GPL	There is no exception for loadable modules in GPL
If you don't give the code to the customer for a GPL software, the customer can directly sue you!	No! This is not the correct way. (The original author has the right)
Within the GPL code / derivative work, we can protect the IP by machine code OR code in code OR any such method!	Not possible! We must give the corresponding code and compiler if needed! Anything hindering the freedom, you cannot do.
The GPL forces you to release your proprietary changes	GPL forces to release the source code of GPL or derivative work ; not the proprietary code!



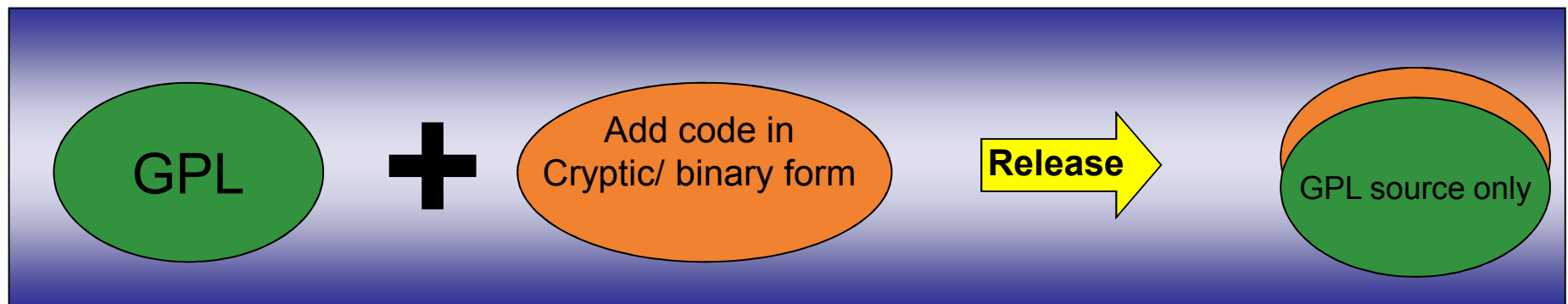
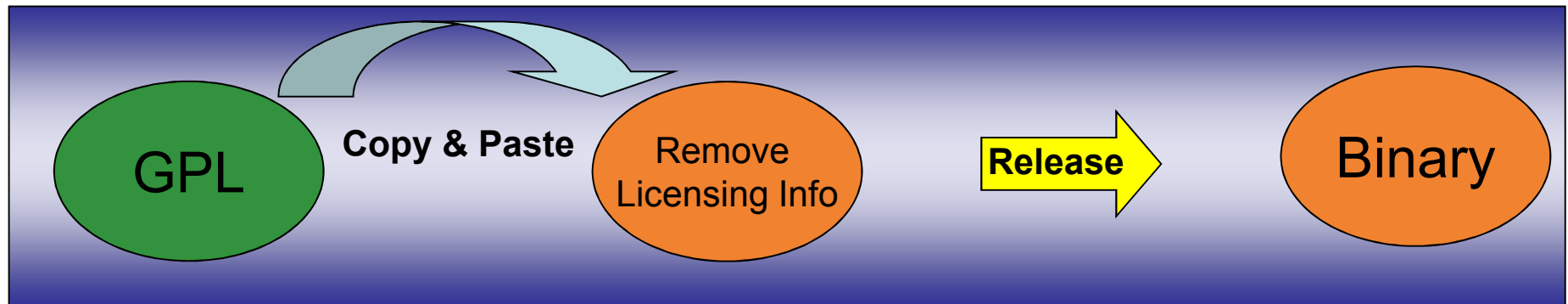
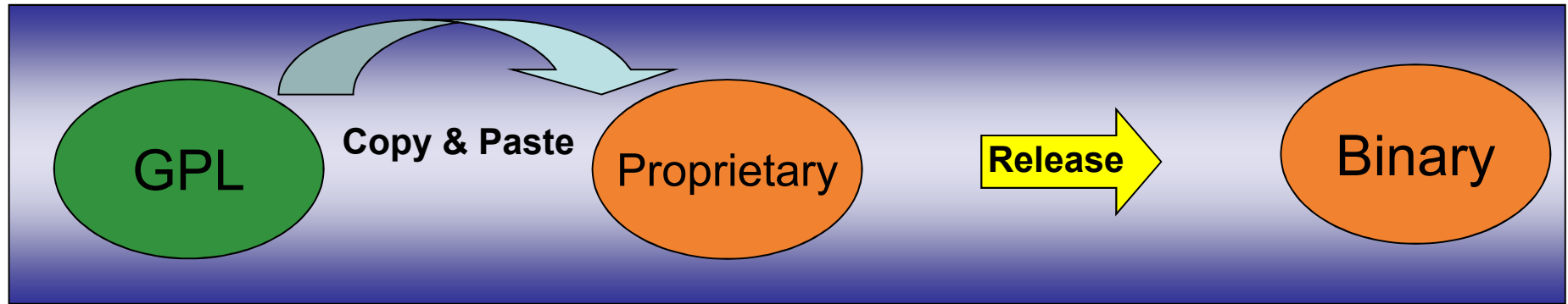


GPL – The Right Sense

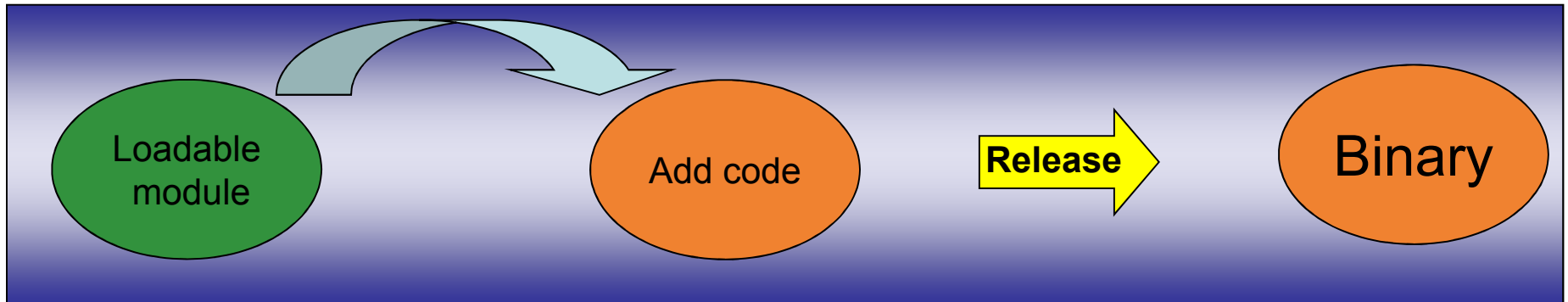
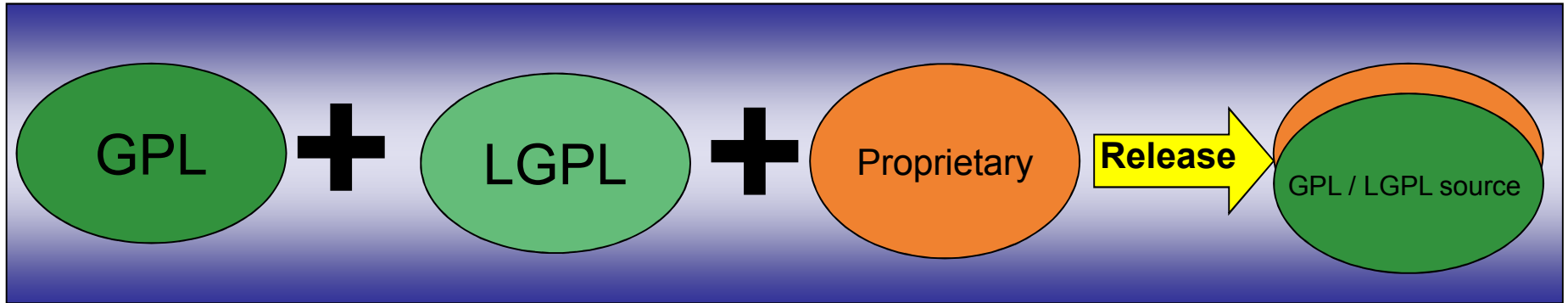
**Pitfalls & Ways Out**

Building an Ecosystem

# Pitfalls : Development & Release



# Pitfalls : Development & Release (contd.)



**Compliance Checks are as strong as development approach!**

# Pitfalls : Business

- No License verification before the customer release
- No specific policies to use the GPL code for the development
- No awareness on licensing in the organization at all the levels
- Misunderstanding the impact of non-compliance on business

**Non-compliance of licensing can lead to closure of business partially or fully!**

# Ways out : Suggestions

- Awareness GPL at all levels and at each phase of software lifecycle [*The right understanding of the licensing is the key*]
- Defined policies for open source / GPL
- Right tools for license verification
- Balancing the value of GPL code and Proprietary code

GPL – The Right Sense

Pitfalls & Ways Out

**Building an Ecosystem**

# Open source : Industry Scenario

More than half of the end users use open source and have strategy to handle open source – Gartner, 2011



Survey with 547 IT chiefs...  
22 per cent deploy OSS widely in all departments  
46 per cent use it in some departments or projects  
21 per cent are currently weighing up the pros and cons.

- Gartner, 2011

90%+ of Companies Use Open-Source  
29 Percent Contribute Back!

- Study by Accenture and zenoss

## Interesting Facts:

76 percent of respondents consider **quality**—not price—to be open-source's major selling point.  
71 percent, is an open-source application's **improved reliability**  
70 percent, **stronger security and bug fixes**

- Study by Accenture and zenoss



Open source as overall business software asset:  
5 years back < 10%  
In next 18 months > 30%!

<http://www.pcmag.com/article2/0,2817,2367829,00.asp/>

<http://www.channelweb.co.uk/crn-uk/news/2025134/gartner-half-firms-sou>

# 3 Companies using open source!



The company moved from a traditional research and development style to one that follows the open source strategy. Interestingly, Procter & Gamble calls this new strategy “connect and develop.”



BMW Group embraces the open source development theory within its new car development projects. Team members, who can number in the hundreds, are gathered together from their home bases to work at BMW's Research and Innovation Center.



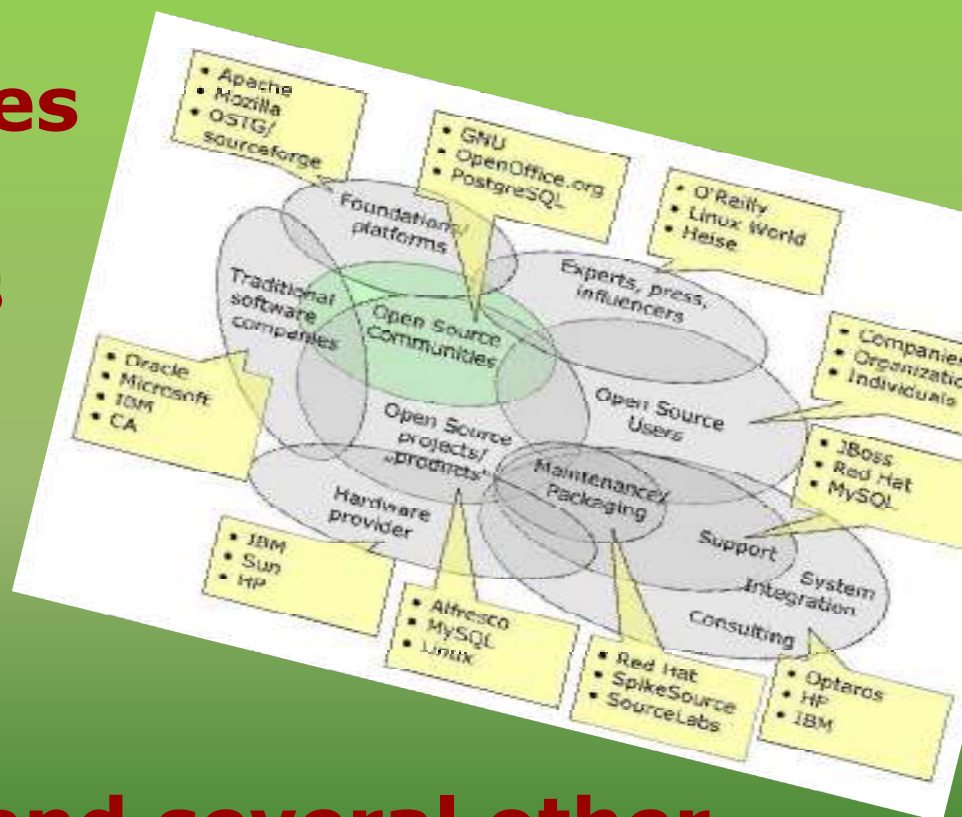
Southwest Airlines recently gathered team members from across the company. These included employees in dispatch, operations, flight and crew members and others. This group was asked to come up with a set of changes that could be implemented to create changes in the airline's operations.



# Open source: BIG ecosystem

**Right Collaboration can make you invincible!**

- **Open Source Communities**
- **Software Companies**
- **Foundations and Forums**
- **Open Source Users**
- **Hardware Vendors**
- **Chip Manufacturers**
- **Consultants**
- **Experts and Freelancers**
- **Open Source Projects ...and several other parties....**



# Why an open source ecosystem?

- **Systematic and efficient way to work with community**
- **Handling Organizational specific data or information security aspects**
- **Right information at the right time to improve the competitiveness of the software**
- **Effective win-win industry coalition**
- **Trend controlling capability**

# All starts from a seed of idea!



**Users/developers work to develop the idea!**

**Community becomes stronger and all the parties share the result**

How to participate?!



Identify

- the right area for the collaboration
- the right community
- suitable strategy to give and take!

win-win only can survive! 😊

# Ways to contribute...

- Documentation
- Testing and Bug Reporting.
- Encourage usage of Open Source within your circle of influence!
- Provide testimonials about the Open Source from your organisation.
- Collaborative Development with community
- Share code back to community
- Open Source Awareness within the organisation

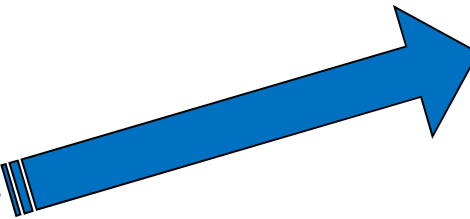
...and more...!

# A Successful story from Huawei



## An ecosystem with Hadoop Project Community

### Triggering points



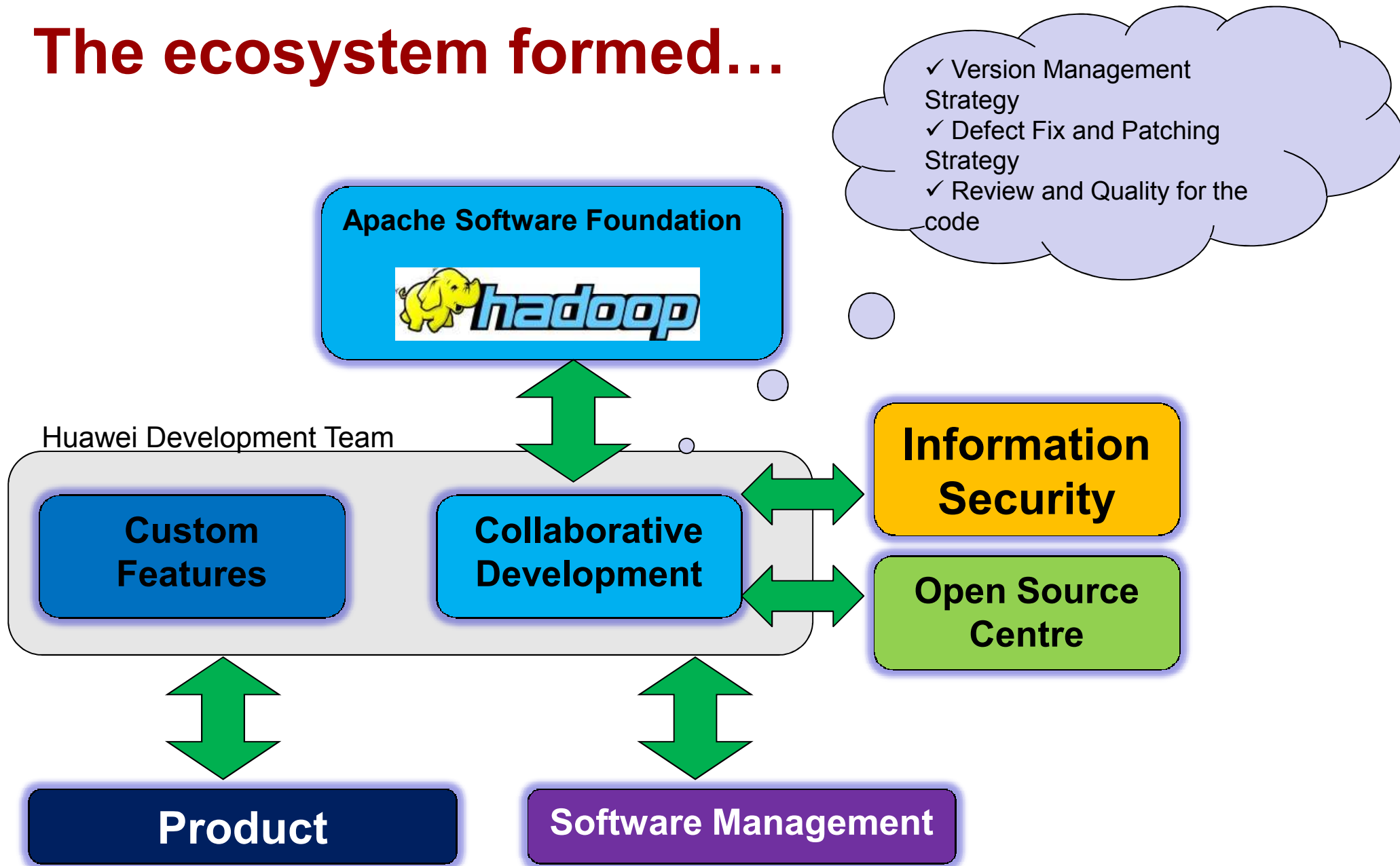
- Difficult Migration / upgrade to newer versions
- Difficult Integration of defect fixes
- Incompatible internal development with open source versions
- Slow in delivering the new features
- Waste of effort on certain features

- Effortless migration / upgrade : always on latest version!
- Internal developments on the open source components are shared and automatically get integrated
- All new features ready
- No Waste of effort
- and...more benefits! 😊**
- Best utilization of Competency and innovations from community
- Competency improvement for the team

# The Challenges...

- Common Understanding among all the stakeholders (technical and management)
- Organizational Information Security
- Version and configuration management
- Customers may not wait for open source releases for new features!
- Certain related requirements are product specific, no use contributing to community

# The ecosystem formed...



# ...and the result...!

Huawei Hadoop team till date have **raised 74 issues** in Hadoop components.

- Mapreduce
- HDFS
- Hadoop core
- Hive
- Zookeeper

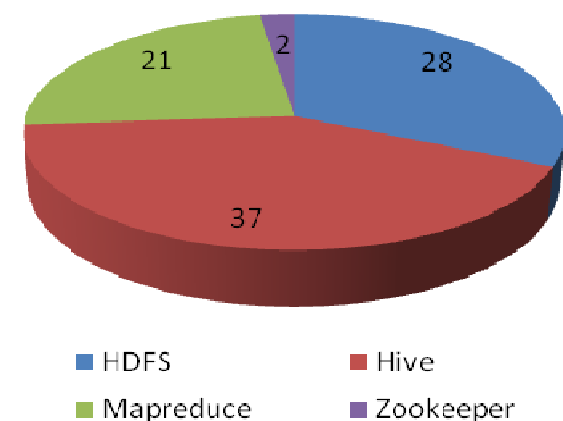
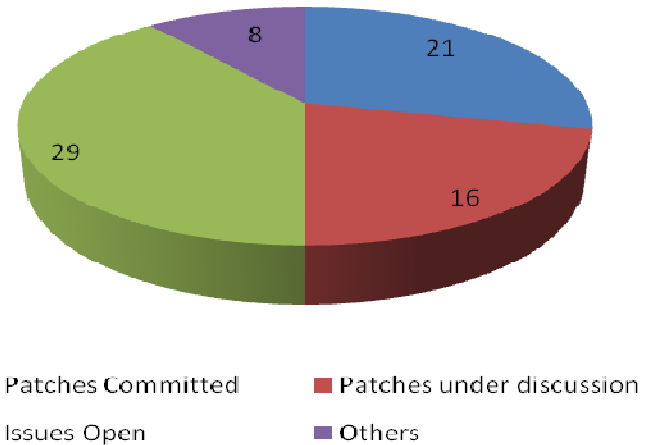
• **Merged around 225 developed changes/fixes**

- Always latest features are defect fixes ready!
- Share features implemented in our version to community.
- Participate in new feature development in the community.
- Participate in providing solutions to open issues in community.

## Planned

Planning to **contribute around 80+ Issues/features** and provide solutions in Hadoop community.

Total Merged = 225



## Bigger competent team along with community!



# Overall Value to Business

**Reduced feature delivery time**

**Time to marketing**

**Reduced maintenance time**

**Technical competency of the team improved exponentially**

**Innovative ideas and collaborations with industry experts**

**Overall competitiveness of the products improved**

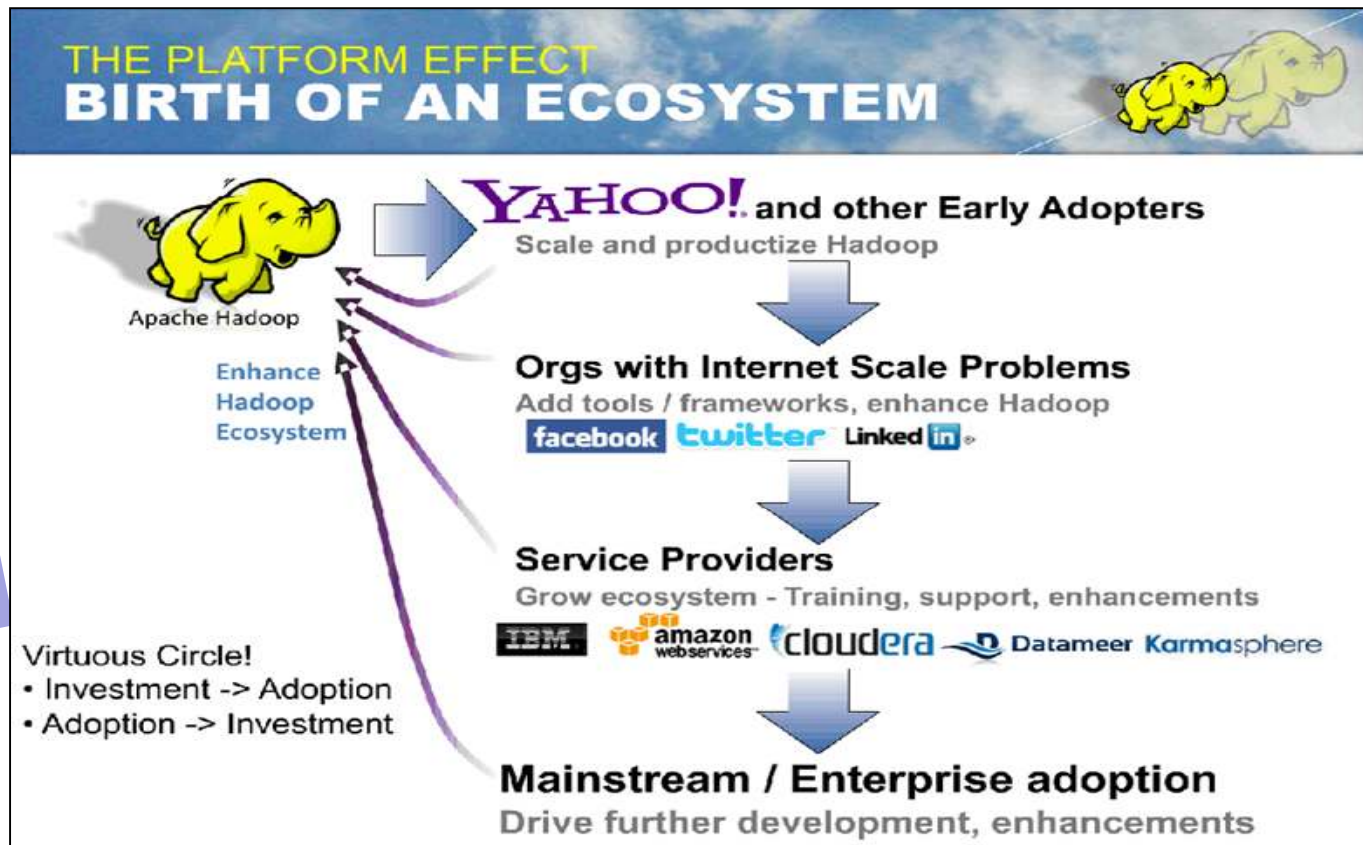
**The openness and initiatives of the organization has been acknowledged by the industry**

## Future plan

- **Plan to start open source collaborations for Apache Cassandra Xen (Virtualization)**
- **Stronger Linux team collaborations with open source**
- **More teams are interested to start such ecosystems based on this success!**

# Tailpiece...!

Yahoo stopped its  
hadoop distribution  
and joined Apache  
Hadoop Community!



Hadoop : Grown from Open Source Project to  
Big Data Ecosystem!



<http://developer.yahoo.com/blogs/hadoop/posts/2011/01/the-backstory-of-yahoo-and-hadoop/>

<http://developer.yahoo.com/blogs/hadoop/posts/2011/01/announcement-yahoo-focusing-on-apache-hadoop-discontinuing-the-yahoo-distribution-of-hadoop/>

# Openness and Initiatives by Huawei

- **Linux Foundation**

- MeeGo Handset Working Group
- HA Working Group
- Open Compliance Program
- Carrier Grade Linux Working Group



- **SCOPE Alliance ([www.scope-alliance.org](http://www.scope-alliance.org))**

- Chairman position 2011
- Mission is to help, enable and promote the availability of open carrier grade base platforms based on Commercial Off The Shelf (COTS) hardware / software and **Free Open Source Software (FOSS)** building blocks, and to promote interoperability to better serve Service Providers and consumers



# Openness and Initiatives by Huawei

- **OpenSAF ([www.opensaf.org](http://www.opensaf.org))**

- Foundation for management
- Project for using and contributing (LGPL 2.1)



- **Hadoop Project ([hadoop.apache.org](http://hadoop.apache.org))**

- Over 200 contributions



# Q&A

# Thank You...

## ...for your time and participation...



### **Timo Jokiahho:**

30+ years experience in embedded systems in various industries. Currently leading the software technology planning at Huawei (Munich, Germany), focusing on Base Platforms (OS, Virtualization, H and O&M), also for terminal software platforms (Android and MeeGo). Previously lead Strategy Technology & Architecture work for network element platform development at Nokia and NSN and leading several R&D and business teams to develop equipment for communication, security and maritime navigation industry. First and present chairman of SCOPE Alliance. Was president of SAF and chair for technical working group.



### **Sanil Kumar D:**

Leader of Architecture Team for Linux Domain (Bangalore, India). 11+ years experience in Embedded Systems and Linux. Experience in Kernel and Driver Design and developments for various hardware platforms. Several papers and presentations at Huawei technology events in Linux Domain (pNFS on Linux, Non Functional Design, Multicore and Linux Optimization).

**Timo Jokiahho :** [timo.jokiahho@huawei.com](mailto:timo.jokiahho@huawei.com) **Sanil Kumar D :** [sanil@huawei.com](mailto:sanil@huawei.com)

# References

[www.linuxinsider.com/edpick/59780.html?wlc=1304850263](http://www.linuxinsider.com/edpick/59780.html?wlc=1304850263)

[www.gnu.org/philosophy/free-software-for-freedom.html](http://www.gnu.org/philosophy/free-software-for-freedom.html)

[www.gnu.org/licenses/gpl.html](http://www.gnu.org/licenses/gpl.html)

[www.scope-alliance.org](http://www.scope-alliance.org)

[www.opensaf.org](http://www.opensaf.org)