

# Influence of Open Source on Engineer Culture

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Alibaba  
Open Source

让天下没有难做的生意  
To make it easy to do business anywhere




- The Open Source of Alibaba
- Influence of Open Source on Alibaba
- Strategy and Advices for using Open Source Software
- Challenge of Enterprise System

- Shen Jindi, Nickname in Alibaba: Lu Qi
- Joined Taobao in 2010, served as the architect for Wangwang, Dingding and Lawing, Currently responsible for the open source business
- Member of Alibaba Open Source committee

# Alibaba Open Source Practice

- In 2009, Dr. Zhang Wensong(Author of LVS) joined Taobao, then built Alibaba open source culture
- In 2010, Tair—the first Ali heavyweight open source was released (Distributed caching system)
  - » the QPS peak was more than 10 million per second
- In 2011,Open Source Committee was set up , in 2015 the Open Source Group was set up
- Covers front-ends,back-ends,database,filesystem,kernel,hardwares, etc
- 100+ Open Source Projects, 150+ active open source Contributors



# Open Source projects Alibaba mainly Involved

- Linux Kernel/XEN/KVM
- Hadoop/HBase/Spark
- MySQL
- OpenJDK





# Objective of Alibaba Open Source

- Giving back to communities , we use many kinds of open source softwares meanwhile we should make contribute to open source development
- Technology innovation & Improving infrastructure software with the industry
- To establish the effect of technology of Alibaba , attract more talents and to meet the greater technical challenge
- As a cloud company ,Aliyun should participate in building better open source infrastructure ,which could reduce the cloud cost of Enterprise

# Engineer Culture — — Influence of Open Source





# Free Open Source Services

## — — Influence of Open Source

- Code Hosting : <http://code.taobao.org>
- Mainstream Linux distributions, Apache, CPAN and other open source software mirroring service <http://mirrors.aliyun.com/>
  - » Characteristic image warehouse
    - » RubyGems : <http://ruby.taobao.org/>
    - » Python: <http://mirrors.aliyun.com/pypi/>
    - » RaspBian: <http://mirrors.aliyun.com/raspbian/>
    - » MacPort: <http://mirrors.aliyun.com/macports/>
    - » Maven、 Android: On-line in December 2015
  - » Others: [ali-yum@alibaba-inc.com](mailto:ali-yum@alibaba-inc.com)

# R & D efficiency improvement

## — — Influence of Open Source

- » Using plenty of open source softwares during R&D process
  - » Migrating from Subversion to git.
  - » The fully open source solution help us support the 80000/second trading peak
- » Reduce the cost of using commercial software.
  - » Full Linux operating system on sever side, we can customized Kernel according to the growth of requirement
- » Faster to apply the new open source softwares
  - » Docker、Spark、HBase、Nodejs have already been used widely when they were beta versions

# Promotion of Technical Strength — — Influence of Open Source

- Optimization ability of basic service software
  - » Faced the Vulnerability of 2015-03 Xen Hypervisor XSA-123, Aliyun used HotPatch to avoid large-scale downtime repair.
  - » OpenJDK、 ARM low power server、 Myql.
  - » Over 1PB data on Spark
- » Ability to promote the commercial service based on the new open source technology
  - » Launched PAAS cloud service based on Docker technology
  - » RDS、 Mysql、 CDN ...

# Open source software help reduce the cost of cloud

- Use open source software to reduce the migration cost to public cloud
  - » By using mainstream open source, you can use following softwares on both public cloud and proprietary cloud:
  - » Try to use the open source softwares which support the standard:
    - » SDN components Support OpenFlow
    - » deploy the Swift System support S3(©) interface

**OPEN SOURCE IS EATING THE WORLD**

# Enterprise System should adapt to open source

- Make active use of open source softwares
  - » Most of the open source software have been tested by large Internet companies .
  - » For variety of open source softwares , we should make full preparations for calling works
  - » Adopt the universal open source softwares based on standard and ensure the R&D investment ,such as HDFS
- Reduce R&D cost using open source
  - » Community development is the trend especially for the basic softwares .Hadoop、 Spark、 Docker are all developed by Community .
  - » 80% features of open source are deckled by Community, which could reduce cost





# Enterprise should have open source strategy

- Learning and improving
  - » The open source software development route should match the rhythm of its own software development
  - » Using and contributing open source software can enhance the enterprise's standardization, scalability, and reduce costs
  - » Understand the open source licensing agreement
- » Contribution
  - » Encourage engineers to contribution open source and then form the engineer culture
  - » Interact with the community, to help each other is the required course for each company
  - » Engineers could get a sense of achievement, at the same time ,enterprise' could enhance the ability of the R & D delivery



# Cases of using Open Source Softwares in Alibaba

- » Database: Mysql、PostgreSQL、Sqlite
- » Application Server: Tomcat、NodeJS
- » Web Server: Tengine、Apache
- » Code Management Tools: Git、GitLab、Subversion
- » Code CI: Jenkins
- » OS: Linux、XEN/KVM
- » Big Data Platform: Hadoop、Spark、jStorm、R、Hive、Mahout、HBase
- » Development Tools: Spring、OpenJDK、Python、Ruby、ReactNative、Docker

- Aliyun: <http://www.aliyun.com>
- Github: <http://github.com/alibaba/>
- Email: [opensource@alibaba-inc.com](mailto:opensource@alibaba-inc.com)
- Official Website: [http://  
opensource.alibaba.com](http://opensource.alibaba.com)
- Code hosting: <http://code.taobao.org>



Thanks