

# 从开源到产品

刘艳华 华为Cloud BU开源总监

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- 使用开源管理

- 回馈社区

- 商用增强

# 开源管理管什么

来源可靠

合法合规

安全漏洞

可追溯

生命周期

# 开源License



# 版权与专利

## OpenStack 贡献者协议

① 开源社区普遍排斥  
专利

② 正规社区通过协议  
要求代码提交者放弃  
专利权利

开源社区  
版权专利  
游戏规则

③ 使用者担责

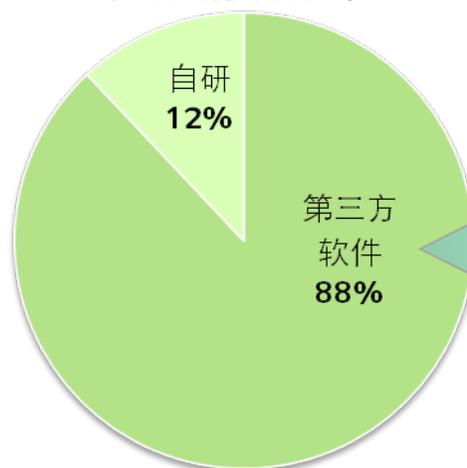
④ 如果代码中包含  
非代码所有人的  
专利，使用时会造  
出专利侵权

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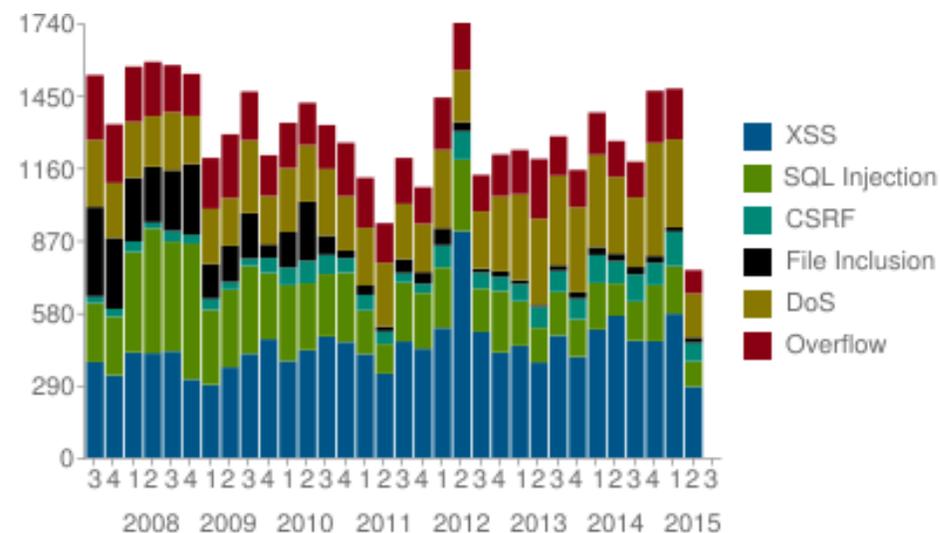
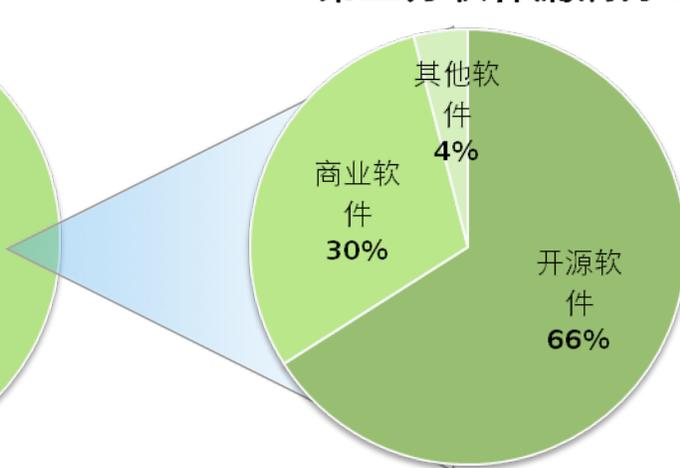
# 开源安全漏洞



产品漏洞分布



第三方软件漏洞分布



120,000+ 漏洞, 4,700+ 研究人员

# 华为开源管理策略



95% of code bases contain undisclosed open source

75% of audits contain unknown licenses

50% of code audits contain GPL



## 融入

CERT组织



行业组织



## 赞助

- Linux基金会CII项目赞助商
- OpenSSL开源项目白金赞助商



## 合作

- 与OSVDB的漏洞库建设项目
- 与P1公司的安全测试项目



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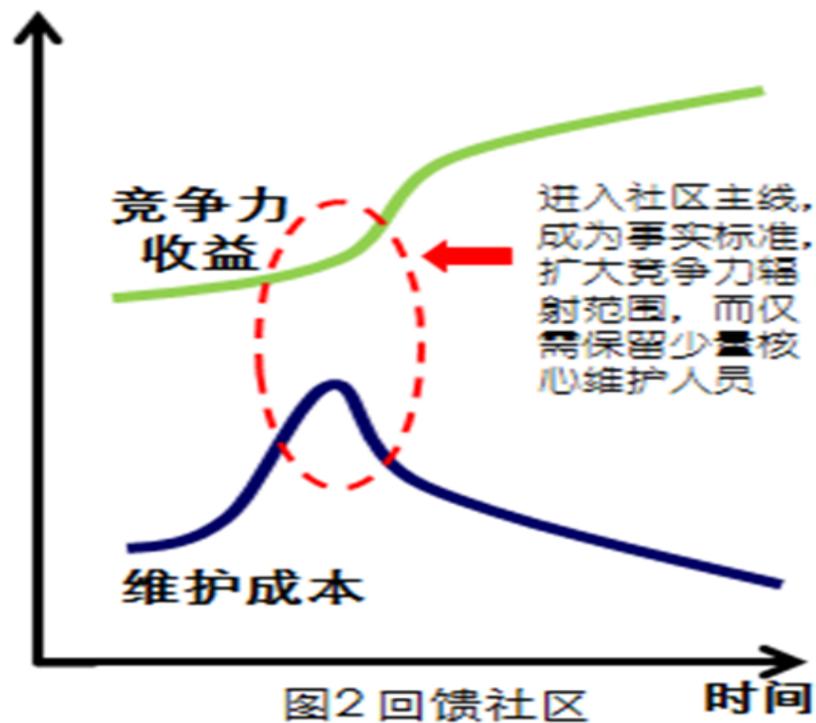
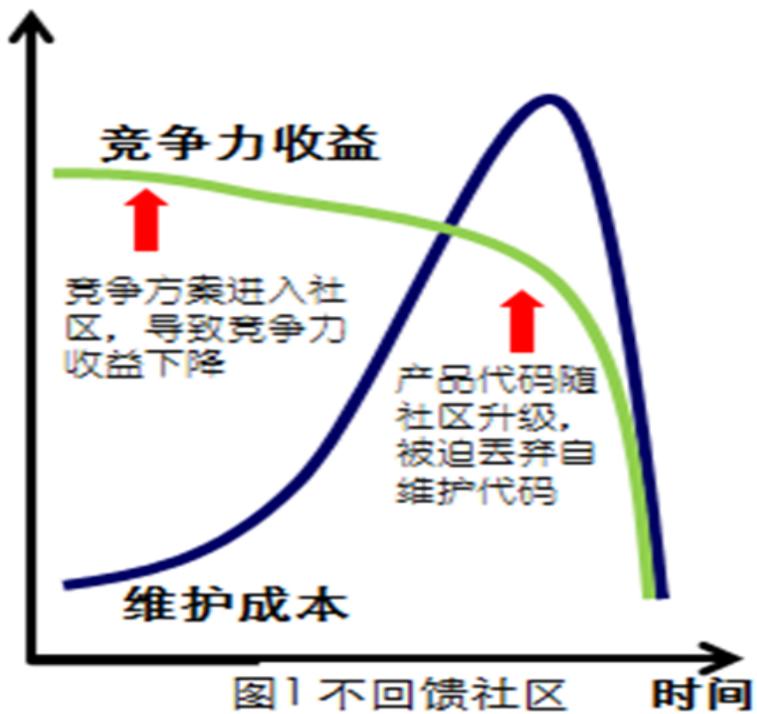
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# 使用成本

避免“自维护成本陷阱”：自维护策略常常具有短期效应，长期运作容易进入“自维护成本陷阱”；



# 熟悉、接纳并融入开源文化

## ➤ Open--4 Open' s (开 放)

Open Source

Apache 2.0 license, NO 'enterprise' version

Open Design

Open Design Summit

Open Development

Anyone can involve development process

Open development management via Launchpad & Github

Open Community

OpenStack Foundation in 2012

## ➤ Volunteer ( 自愿效劳 )

- ✓ 开发任务
- ✓ 推广大使
- ✓ 工作组

## ➤ Vote ( 投票 )

- ✓ 董事、TC等社区职位
- ✓ 峰会议题
- ✓ 所有决策

# 循序渐进，做受欢迎的开源公民

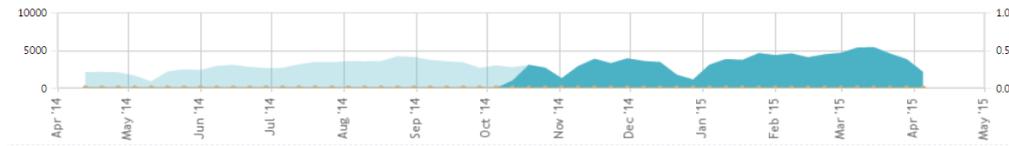


# 合理公允的解读贡献排名

<http://stackalytics.com/>



Release: Kilo | Project Type: integrated | Module: Any module | Company: Any company | Engineer: Any engineer | Metric: Reviews



版本： 项目： 公司： 指标：

Release: Kilo

- All
- Kilo
- Juno
- Icehouse
- Havana
- Grizzly
- Folsom
- Essex
- Diablo
- Cactus
- Bexar
- Austin

Module: Any module

- Ceilometer Official
- Cinder Official
- Glance Official
- Heat Official
- Horizon Official
- Ironic Official
- Keystone Official
- Neutron Official
- Nova Official
- Sahara Official
- Swift Official

Company: Any company

- HP
- Hitachi
- Huawei
- IBM
- Infoblox
- Inktank
- Instituto de Telecomunicacoes
- Intel
- Johns Hopkins University
- Applied Physics Laboratory

Metric: Reviews

- CI votes
- Commits
- Completed Blueprints
- Drafted Blueprints
- Emails
- Filed Bugs
- Lines of code
- Patch Sets
- Person-day effort
- Resolved Bugs
- Reviews

| 度量指标                        | 指标含义  | 难度系数  |
|-----------------------------|---|-------|
| <b>Completed Blueprints</b> | 版本接纳的比较完整的特性、需求                                       | ***** |
| <b>Resolved Bugs</b>        | 修改成功的缺陷   | ****  |
| <b>Reviews</b>              | 对社区其他人提交的代码发起的评审数量                                    | ***   |
| <b>Lines of Code</b>        | 代码行，来自 Completed Blueprints 和 Resolved Bugs 所包含的最终代码量 | **    |
| <b>Commits</b>              | 提交次数  | *     |

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- 使用开源管理

- 回馈社区

- 商用增强

# 商用增强的方法论：用商业牵引开源，与用户和社区联合创新



# 商用增强的典型功能：OpenStack -> FusionSphere

## 工程化

- 主线代码的功能测试，bug修复和补丁发布
- 对计算、存储、网络等周边设备插件和驱动件的集成，验证和认证
- OpenStack和其它软件的打包盒分发
- 自动部署和升级工具

## 面向业务场景的增强

- NFV场景增强：运营商级高可靠、运营商级的高吞吐量和低延时、基于工作负载的虚拟机调度能力
- 公共云场景增强：自动化业务服务、IaaS+服务



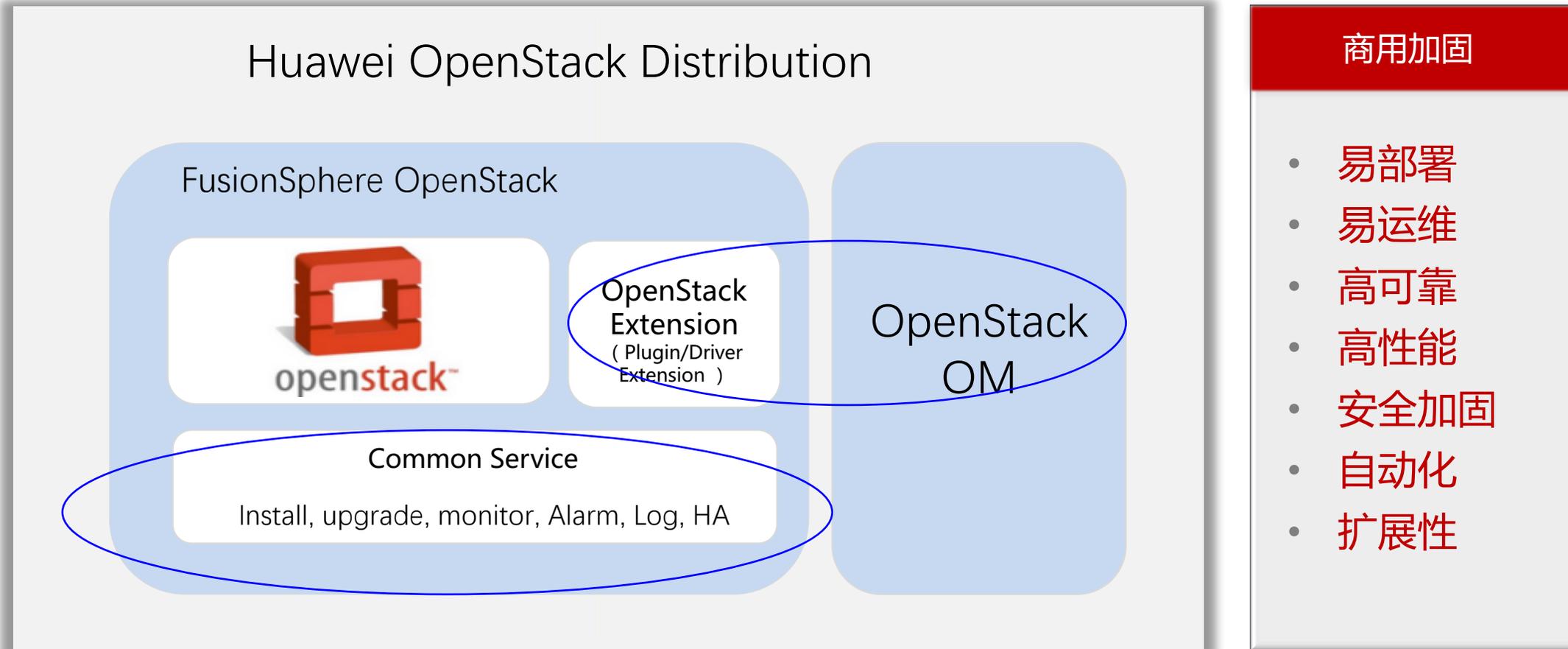
## 性能提升

- 性能测试和调优，涵盖OpenStack和第三方组件，例如：数据库，消息队列
- 大规模部署设计
- 单OpenStack支持1000个物理主机
- OpenStack级联支持10万台物理主机100万虚拟机

## 可靠性

- 控制器节点的HA，负载均衡
- 管理数据备份，集中式日志管理
- 管理模块的自动故障恢复

# 商用增强的扩展原则



Openstack扩展原则：商用增强解耦实现，不破坏开源架构，不影响社区原生接口；  
结果：所有支持标准Openstack接口的第三方产品都可以和FusionSphere进行对接。

# THANKS



欢迎线下更多交流