

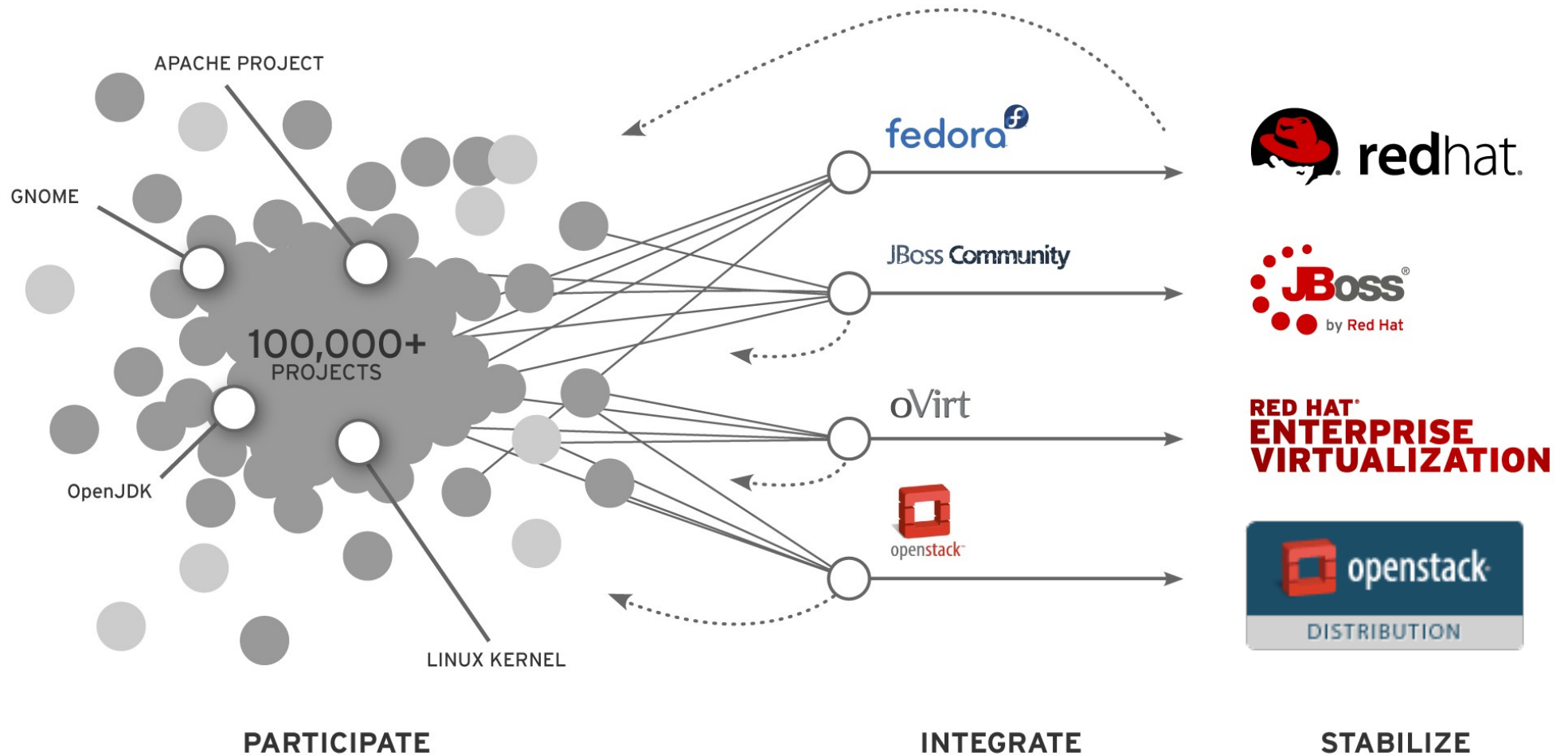


# RED HAT OPENSTACK

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Product Manager



# OPEN SOURCE COMMUNITIES AS THE FOUNDATION



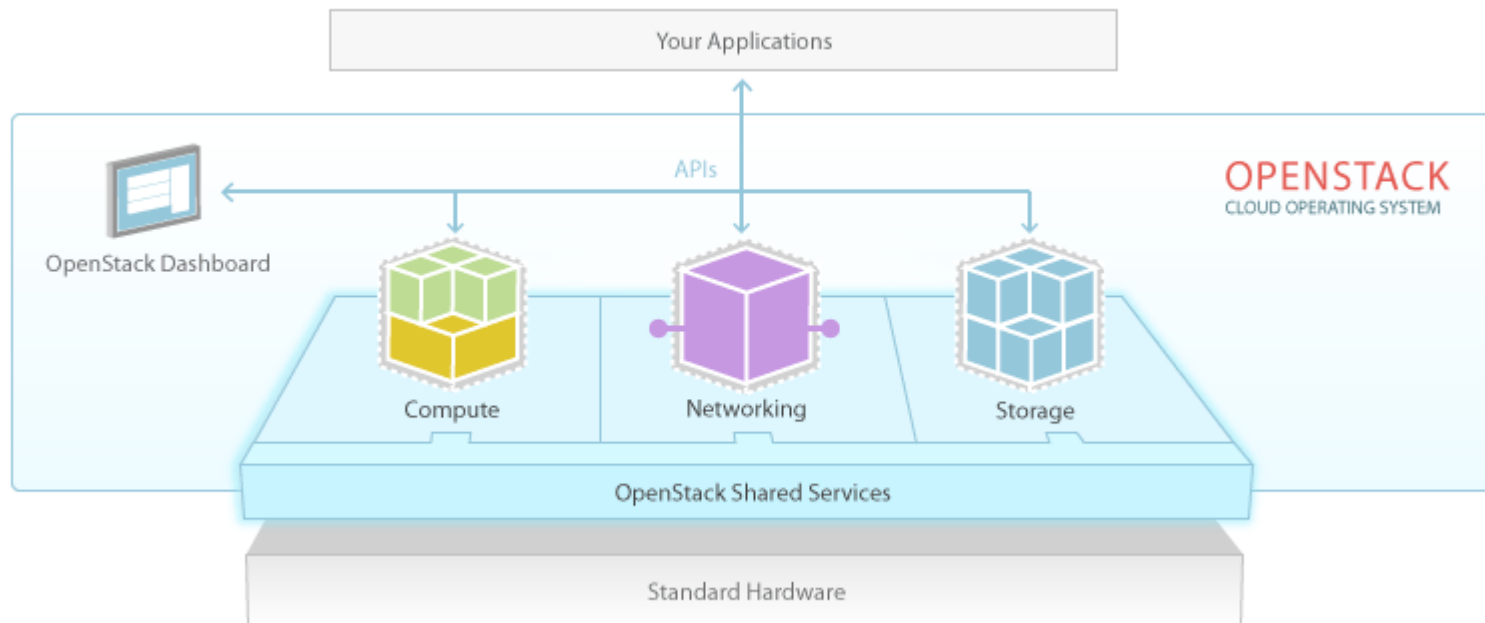
# THIS IS OPENSTACK



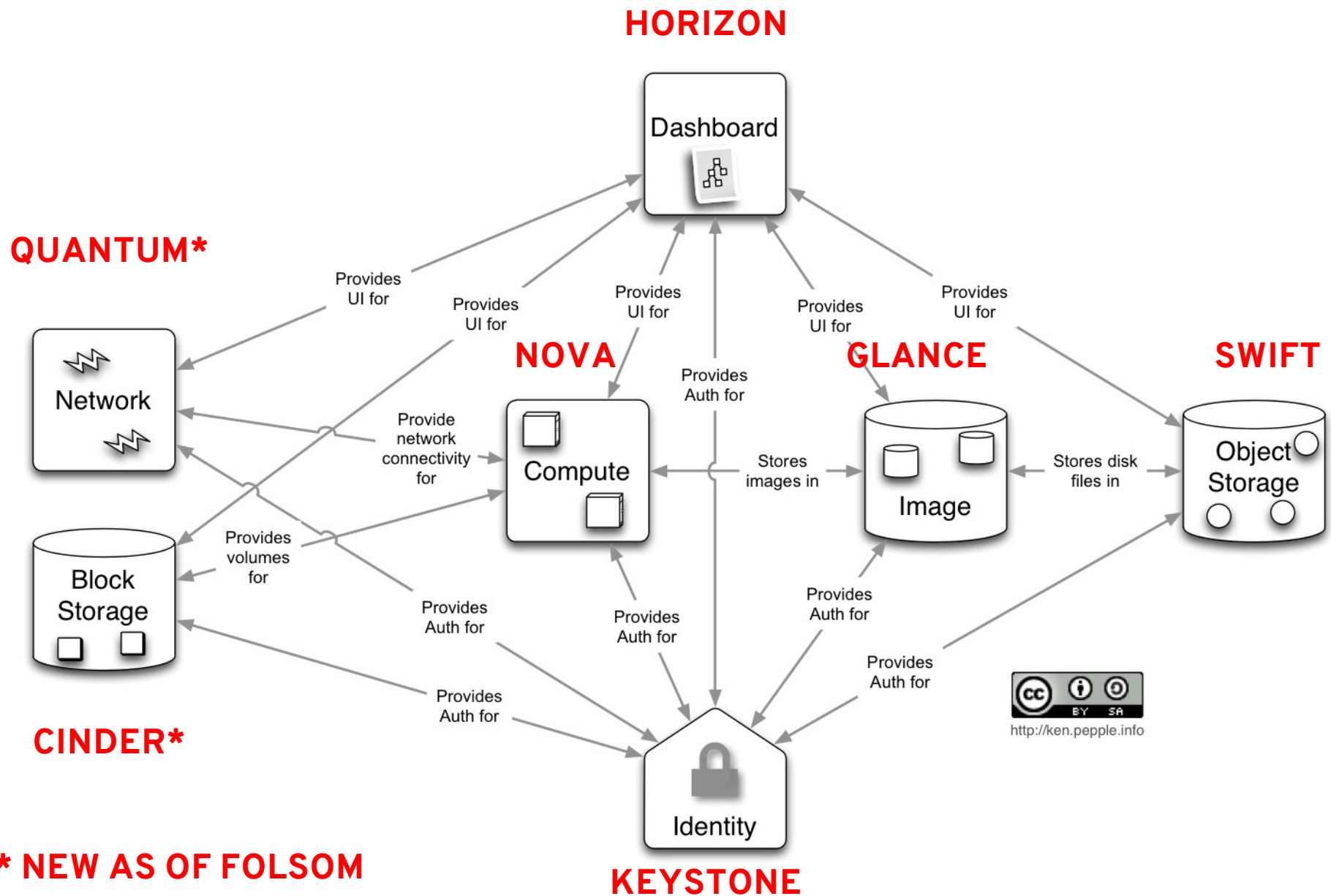
- A Framework  
“Cloud Operating System”
- Targeted use case:  
Amazon-like cloud services
- Cloud Position:  
Public, Hybrid, Private



# WHAT IS OPENSTACK?



# OR MORE COMPLICATED (AS OF FOLSOM)



\* NEW AS OF FOLSOM



**Havana**  
Oct 2013

**Grizzly**  
Apr 2013

**Folsom**  
Oct 2012

**Essex**  
Apr 2012

**Diablo**  
Sep 2011

**Cactus**  
Apr 2011

**Bexar**  
Feb 2011

**Austin**  
Oct 2010



- Incubated Projects: Ceilometer (Metering) & Heat (Orchestration)
- Continued maturation of Quantum and Cinder
- Focus on upgrade support
- Quantum (Networking) full inclusion
- Addition of Cinder (Volume Service)
- Initial release: OpenStack Dashboard, OpenStack Identity
- New project: Quantum
- First “Production Ready” Release
- Scaling enhancements
- Support: KVM/QEMU, XenServer, Xen, ESX, LXC
- OpenStack Compute ready for deployment
- Initial release: OpenStack Image Service
- Installation & deployment enhancements, documentation
- Initial Release
- OpenStack Object Storage Production Ready
- OpenStack Compute in testing



# RED HAT'S OPENSTACK HISTORY

## Why is Red Hat involved with OpenStack?

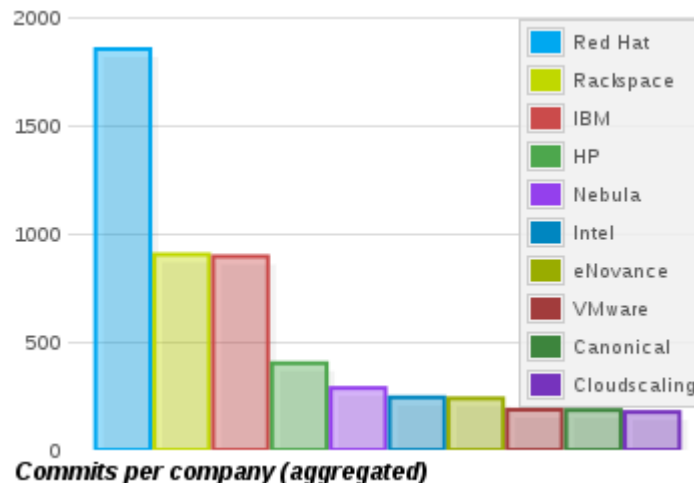
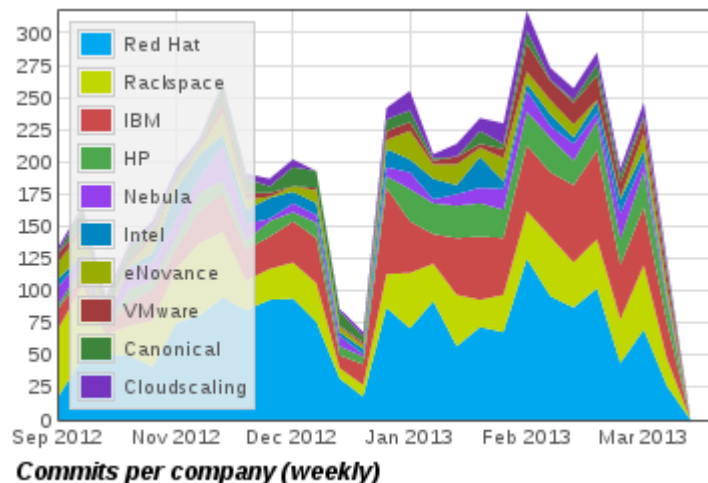
- OpenStack is a growing, exciting and vibrant open-source project. Red Hat is a leader in open source, cloud and virtualization technologies. OpenStack is a natural fit and strategic to our efforts in advancing open source cloud technologies

## Red Hat's achievements to date

- Established ourselves as leaders of OpenStack community
  - Red Hat engineers began quietly contributing to OpenStack mid-2011
- Established a long-term governance structure for OpenStack
  - Red Hat was a key driver in establishing the OpenStack Foundation to “protect, promote and empower” the project
  - Red Hat is a Platinum member of the OpenStack Foundation



# RED HAT GRIZZLY CONTRIBUTIONS



| Company        | Commits    | Authors   |
|----------------|------------|-----------|
| <b>Red Hat</b> | <b>836</b> | <b>31</b> |
| IBM            | 600        | 38        |
| Rackspace      | 534        | 47        |
| HP             | 277        | 37        |
| Nebula         | 218        | 9         |
| Intel          | 163        | 11        |
| VMware         | 150        | 4         |
| Canonical      | 144        | 11        |
| Cloudscaling   | 109        | 3         |
| SwiftStack     | 77         | 4         |

## Core Projects

| Company        | Commits     | Authors   |
|----------------|-------------|-----------|
| <b>Red Hat</b> | <b>1853</b> | <b>38</b> |
| Rackspace      | 902         | 57        |
| IBM            | 895         | 41        |
| HP             | 401         | 49        |
| Nebula         | 286         | 10        |
| Intel          | 243         | 13        |
| eNovance       | 238         | 7         |
| VMware         | 186         | 4         |
| Canonical      | 184         | 13        |
| Cloudscaling   | 175         | 3         |

## All Activity

[http://bitergia.com/public/reports/openstack/2013\\_04\\_grizzly/](http://bitergia.com/public/reports/openstack/2013_04_grizzly/)





# RED HAT'S UPSTREAM LEADERSHIP

- Red Hat leadership in the upstream community
  - Two members on the Technical Committee
  - Creator and Project Technical Lead for Oslo (openstack-common)
  - Members of Nova, Quantum, Glance, Keystone, Oslo, Heat and Ceilometer “core” teams
  - Creator and leading the stable tree maintenance effort
  - Members of vulnerability management and release teams
  - Upstream continuous integration via Smokestack



# RED HAT'S UPSTREAM AREAS OF FOCUS

- **Examples of Red Hat's upstream engineering work**
  - Generalization of messaging infrastructure to support Apache Qpid
  - Improved KVM performance
  - Improved file injection security via libguestfs integration
  - Groundwork for supporting rolling upgrades
  - Improved Quantum/Nova integration
  - Enterprise networking support in Quantum
  - Development of the Heat orchestration service



# RDO AND RHOS



|  |  |
|--|--|
| Latest OpenStack code, major and minor releases                                      | Enterprise-hardened OpenStack code, major and minor releases   |
| Six month release cadence mirroring community release cadence                        | Six month release cadence offset from community releases to allow for hardening and certification testing      |
| Short lifecycle for bug fixes, patches, features                                     | Enterprise lifecycle for long term production deployments, including bug fixes, patches, and feature backports |
| No explicit hardware, software, or services certification                            | Certified hardware, software and services through the Red Hat OpenStack Certified Partner program              |
| Community support  | Supported by Red Hat support with support subscription   |
| Installs on CentOS, Scientific Linux, Fedora, Red Hat Enterprise Linux (unsupported) | Installs on Red Hat Enterprise Linux only  |



# RED HAT'S OPENSTACK OFFERING

- Red Hat will include the following in the Red Hat OpenStack distribution
  - All core OpenStack Foslom packages, including Quantum and Cinder
  - Support for Open vSwitch via userspace tools in Red Hat
  - A multi-node installer for small deployments
  - Reference architectures for large scale deployments
  - Puppet modules for installing all services for OpenStack
  - Bug-fixes and features selectively back-ported from Grizzly



# FOCUS AREAS FOR GRIZZLY

- Rolling upgrades initial support
- Security/upgrades improvement by removing compute node database access
- Heat project incubation (AWS Cloud Formations style orchestration)
- Ceilometer incubation (Metering/Billing)
- CloudWatch (Monitoring) functionality
- Paying down technical debt (e.g. Oslo) via code refactoring and sharing
- GlusterFS integration (Backend for Compute Nodes and Gluster UFO)
- Minimal image based compute node deployments (ala ovirt-node)
- Ongoing OpenShift, CloudForms and RHEV integration improvements



# FOCUS AREAS FOR HAVANA AND BEYOND

- Continued work on supporting upgrades between releases
- Full support / integration for Heat, Ceilometer and CloudWatch functionality
- Provisioning, management and monitoring tools
- Deprecate Nova Networking and Nova Volume support
- Cells work for scaling
- Better integration of guest image creation tools like Oz / Image Factory
- Ongoing OpenShift, CloudForms and RHEV integration improvements



