OpenStack Overview

February 2019

Arthur Yang
Sales Engineer

OpenStack Community Overview

社区发展

2010年openstack诞生

以开发者为中心

Submit(4,10)

PTG(Project Team Gathering)

Openinfra Days

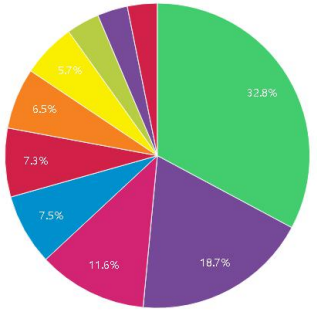
Meetup

Reviews by Company

Show 10 entries Search

#	Company	Reviews
1	Red Hat	288189
2	Mirantis	178512
3	IBM	116413
4	Rackspace	112412
5	HP	99834
	*independent	88355
6	Huawei	54064
7	HPE	49524
8	SUSE	48911
9	Intel	41102

Showing 1 to 10 of 355 entries Previous Next

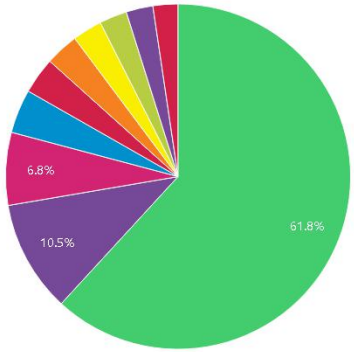


Reviews by Module

Show 10 entries Search

#	Module	Reviews
1	nova	161741
2	neutron	105140
3	cinder	63338
4	horizon	52565
5	project-config	48179
6	heat	42807
7	keystone	40000
8	openstack-manuals	38789
9	tempest	36093
10	ironic	35328

Showing 1 to 10 of 956 entries Previous Next



3

OpenStack Foundation

openstack. SEARCH THE SUMMIT SOFTWARE USERS COMMUNITY MARKETPLACE LEARN DOCS JOIN LOG IN

Board of Directors

The Board of Directors provides strategic and financial oversight of Foundation resources and staff.

Alan Clark

Type of Director
Platinum Representative

SUSE

Bio
Experienced industry leader, open source advocate, a member of the SUSE leadership team, and SUSE strategy adviser for new industry initiatives and open source.

SUSE

Contribution Summary

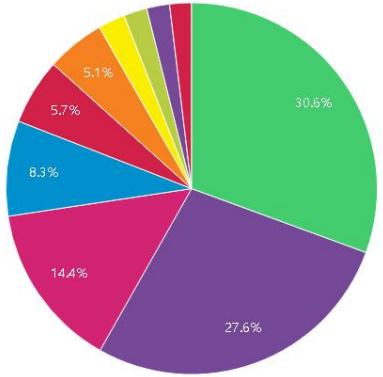
Commits: **10732**
LOCs: **2621558**
Do not merge (-2): **361**
Patch needs further work (-1): **10728**
Looks good (+1): **9788**
Looks good for core (+2): **31373**
Approve: **13446**
Abandon: **24**
Change Requests: **13085** (1385 of them abandoned)
Patch Sets: **33895**
Draft Blueprints: **60**
Completed Blueprints: **33**
Filed Bugs: **1007**
Resolved Bugs: **938**
Emails: **910**
Translations: **114106**

Reviews by Module

Show 10 entries Search

#	Module	Reviews
1	project-config	13510
2	openstack-manuals	7049
3	rpm-packaging	4055
4	requirements	2805
5	neutron	2483
6	keystone	1153
7	tempest	994
8	api-site	973
9	horizon	930
10	security-doc	884

Showing 1 to 10 of 520 entries Previous Next

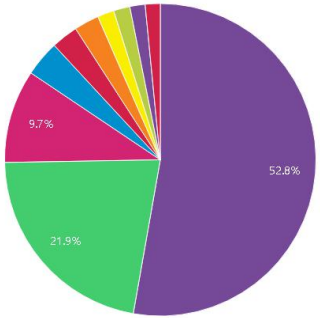


Lines of code by Module

Show 10 entries Search

#	Module	Lines of code
1	openstack-manuals	1383787
2	ha-guide	253173
3	security-doc	96730
4	training-guides	72623
5	openstack-zuul-jobs	67900
6	swift	45217
7	operations-guide	44639
8	api-site	41475
9	neutron	40822
10	openstack-doc-tools	38065

Showing 1 to 10 of 618 entries Previous Next



激活 Windows
转到"设置"以激活 Windows。

OpenStack Platinum Members

Platinum Members

OpenStack Foundation Platinum Members provide a significant portion of the funding to achieve the Foundation's mission of protecting, empowering and promoting the OpenStack community and software. Each Platinum Member's company strategy aligns with the OpenStack mission and is responsible for committing full-time resources toward the project. There are eight Platinum Members at any given time, each of which holds a seat on the Board of Directors. Thank you to the following Platinum Members who are committed to OpenStack's success.

AT&T

Ericsson

Huawei

Intel

Rackspace

Red Hat, Inc.

SUSE

Tencent Cloud

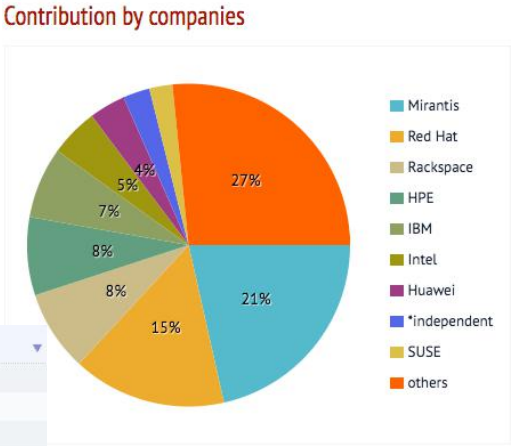
the Platinum Members each contribute $500k USD per year to the foundation and must also have the equivalent of 2 full time employees contributing to OpenStack.

OpenStack Gold Members

Gold Members make an annual contribution equal to .025% of their revenue with a minimum contribution of $50K USD/year and a maximum of $200k USD/year.

国内社区发展

- intel
- 中国开源云联盟
- 各大公司发展(九州云、easystack、金山云)
- 开源投入与项目开发结合
- 云技术社区
- 超融合与VDI



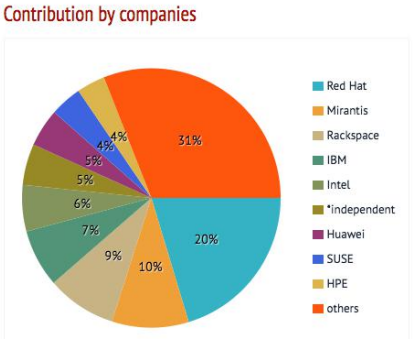
#	Company	Reviews
1	Mirantis	47713
2	Red Hat	34161
3	Rackspace	18011
4	HPE	17379
5	IBM	15824
6	Intel	10776
7	Huawei	8073
	*independent	5956
8	SUSE	5131
9	NEC	4654

Showing 1 to 10 of 188 entries

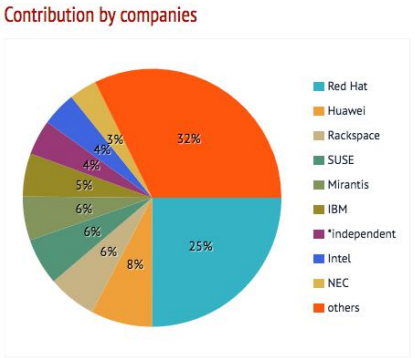
First Previous 1 2 3 4 5 Next Last

9

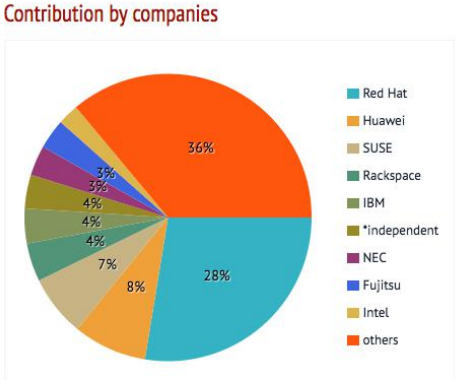
各大公司投入变化



Ocata



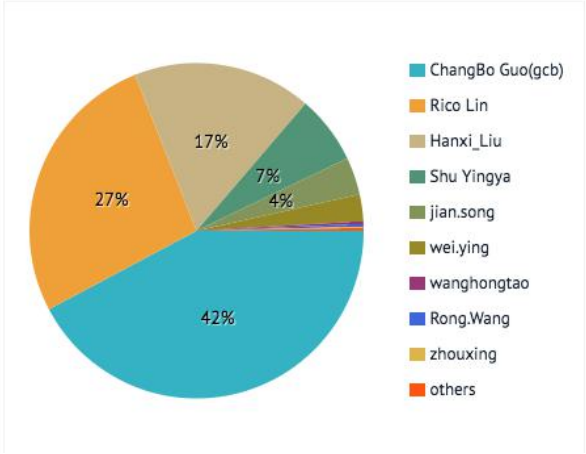
Pike



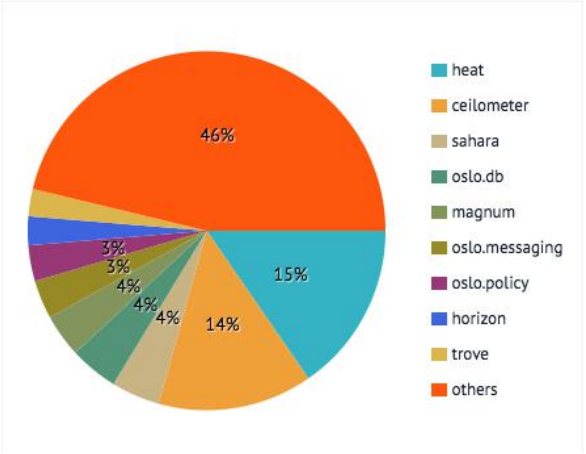
Queens

EasyStack投入情况

Contribution by contributors

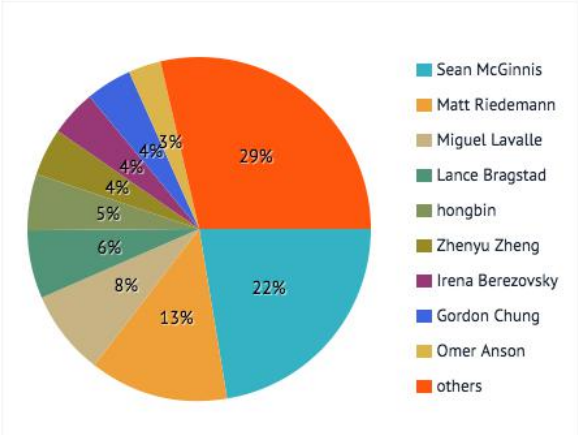


Contribution by modules

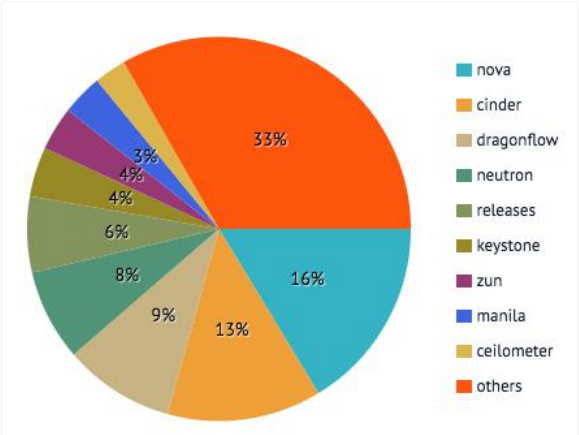


华为投入情况

Contribution by contributors

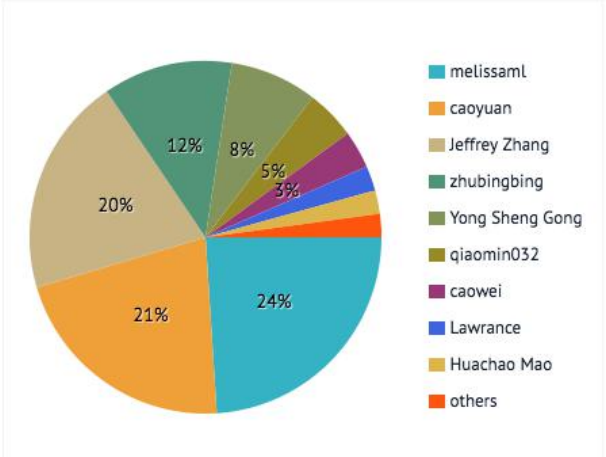


Contribution by modules

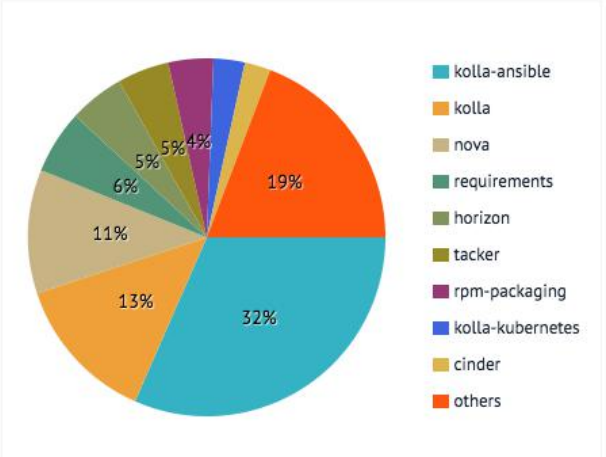


九洲云投入情况

Contribution by contributors



Contribution by modules

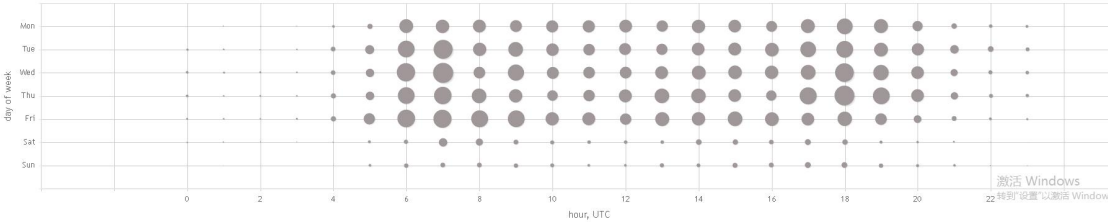


SUSE投入情况

SUSE activity report

Contribution Summary

Commits: **10783**
LOCs: **6022068**
Do not merge (-2): **372**
Patch needs further work (-1): **10782**
Looks good (+1): **9619**
Looks good for core (+2): **30686**
Approve: **13200**
Abandon: **21**
Change Requests: **12963** (1420 of them abandoned)
Patch Sets: **32888**
Draft Blueprints: **63**
Completed Blueprints: **34**
Filed Bugs: **1025**
Resolved Bugs: **921**
Emails: **32**
Translations: **374**



Activity Log |

Colleen Murphy (SUSE)
16 Mar 2019 21:15:53 UTC in keystone
Review "Implement domain reader functionality for projects"
Change request by: [object Object] ([object Object])
Patch by: [object Object] ([object Object])
Change Id: I28db6b9bdb16a1ecdacdc2b9ecbb8674ef4d8fe4
Code-Review: **+2**

Tweet

Colleen Murphy (SUSE)
16 Mar 2019 20:12:17 UTC in system-config
Change request "Update more servers to puppet 4"
Current Status: NEW
Change Id: Idd5079c2f24c30b7cac68d51e447c82865e7e038

Tweet

Colleen Murphy (SUSE)
16 Mar 2019 20:12:17 UTC in system-config
Patch #1 "Update more servers to puppet 4"
Change Id: Idd5079c2f24c30b7cac68d51e447c82865e7e038

Tweet

Colleen Murphy (SUSE)
16 Mar 2019 20:12:17 UTC in system-config
Change request "Update more servers to puppet 4"
Current Status: NEW
Change Id: Ifc81cbc2b95c0cfce718a31fce3c50dff9908049

Tweet

Colleen Murphy (SUSE)
16 Mar 2019 20:12:17 UTC in system-config
Change request "Update more servers to puppet 4"
Current Status: NEW
Change Id: I6fd2172fe937e123bd3ca1f0f8fa2a905661a50b

Tweet

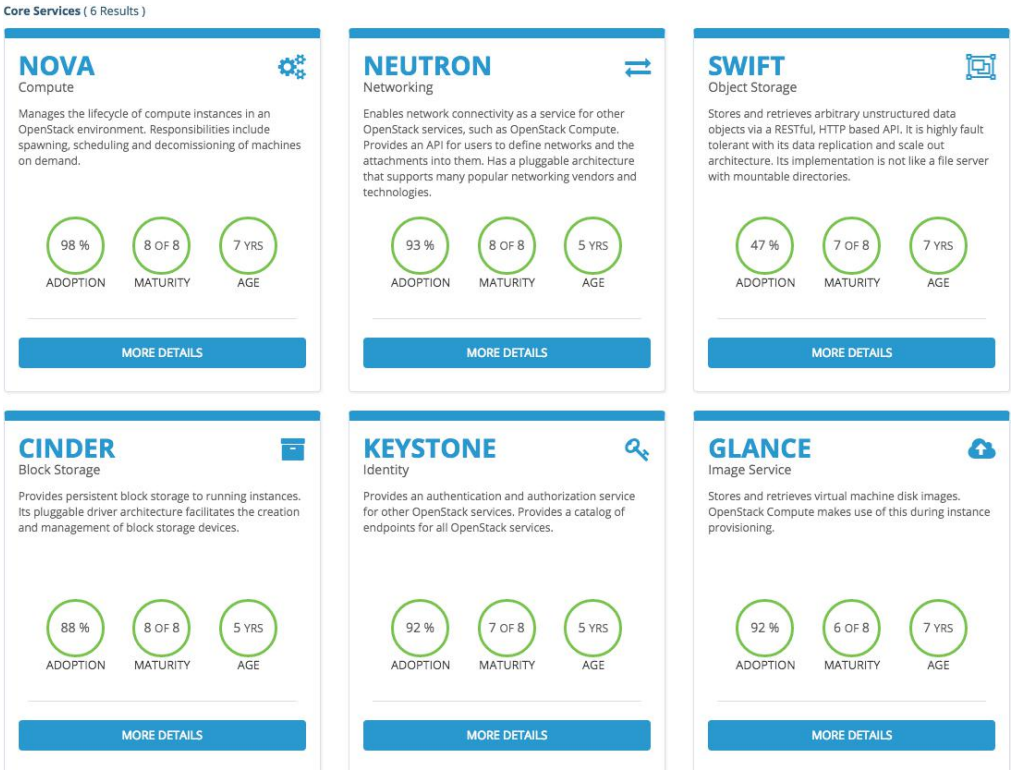
版本发布

- 每年两次（Submit&PTG）
- 版本命名
  - Austin (Austin, Texas): The first design summit took place in Austin, TX
  - 2011.1 Bexar (San Antonio, Texas): San Antonio is located in Bexar county
  - 2011.2 Cactus: Cactus is a city in Texas
  - 2011.3 Diablo (Santa Clara, California): Diablo is a city in the bay area near Santa Clara
  - 2012.1 Essex (Boston, Massachusetts): Essex is a city near Boston
  - 2012.2 Folsom (San Francisco, California): Folsom is a city near San Francisco
  - 2013.1 Grizzly (San Diego, California): Grizzly is an element of the state flag of California
  - 2013.2 Havana (Portland, Oregon): Havana is an unincorporated community in Oregon
  - 2014.1 Icehouse (Hong Kong): Ice House is a street in Hong Kong
  - 2014.2 Juno (Atlanta, Georgia): Juno is a locality in Georgia
  - 2015.1 Kilo (Paris, France): Paris (Sèvres, actually, but that's close enough) is home to the Kilogram, the only remaining SI unit tied to an artifact
  - 2015.2 Liberty (Vancouver, British Columbia): Liberty is a village in the Canadian province of Saskatchewan
  - 2016.1 Mitaka (Tokyo, Japan): Mitaka is a city located in Tokyo Metropolis, Japan
  - 2016.2 Newton (Austin, Texas): The "Newton House", located at 1013 E. Ninth St., Austin, TX, is listed on the National Register of Historic Places
  - 2017.1 Ocata (Barcelona, Spain): Ocata is a beach about 20 minutes north of Barcelona by train

版本生命周期

Series	Status	Initial Release Date	Next Phase	EOL Date
Train	Future	2019-10-16 *estimated* (schedule)	Development *estimated 2019-04-11*	
Stein	Development	2019-04-10 *estimated* (schedule)	Maintained *estimated 2019-04-10*	
Rocky	Maintained	2018-08-30	Extended Maintenance *estimated 2020-02-24*	
Queens	Maintained	2018-02-28	Extended Maintenance *estimated 2019-08-25*	
Pike	Maintained	2017-08-30	Extended Maintenance *estimated 2019-03-03*	
Ocata	Extended Maintenance	2017-02-22	Unmaintained *estimated TBD*	
Newton	End Of Life	2016-10-06		2017-10-25
Mitaka	End Of Life	2016-04-07		2017-04-10
Liberty	End Of Life	2015-10-15		2016-11-17
Kilo	End Of Life	2015-04-30		2016-05-02
Juno	End Of Life	2014-10-16		2015-12-07
Icehouse	End Of Life	2014-04-17		2015-07-02
Havana	End Of Life	2013-10-17		2014-09-30
Grizzly	End Of Life	2013-04-04		2014-03-29
Folsom	End Of Life	2012-09-27		2013-11-19
Essex	End Of Life	2012-04-05		2013-05-06
Diablo	End Of Life	2011-09-22		2013-05-06
Cactus	End Of Life	2011-04-15		
Bexar	End Of Life	2011-02-03		
Austin	End Of Life	2010-10-21		

组件
Core Services



Overview

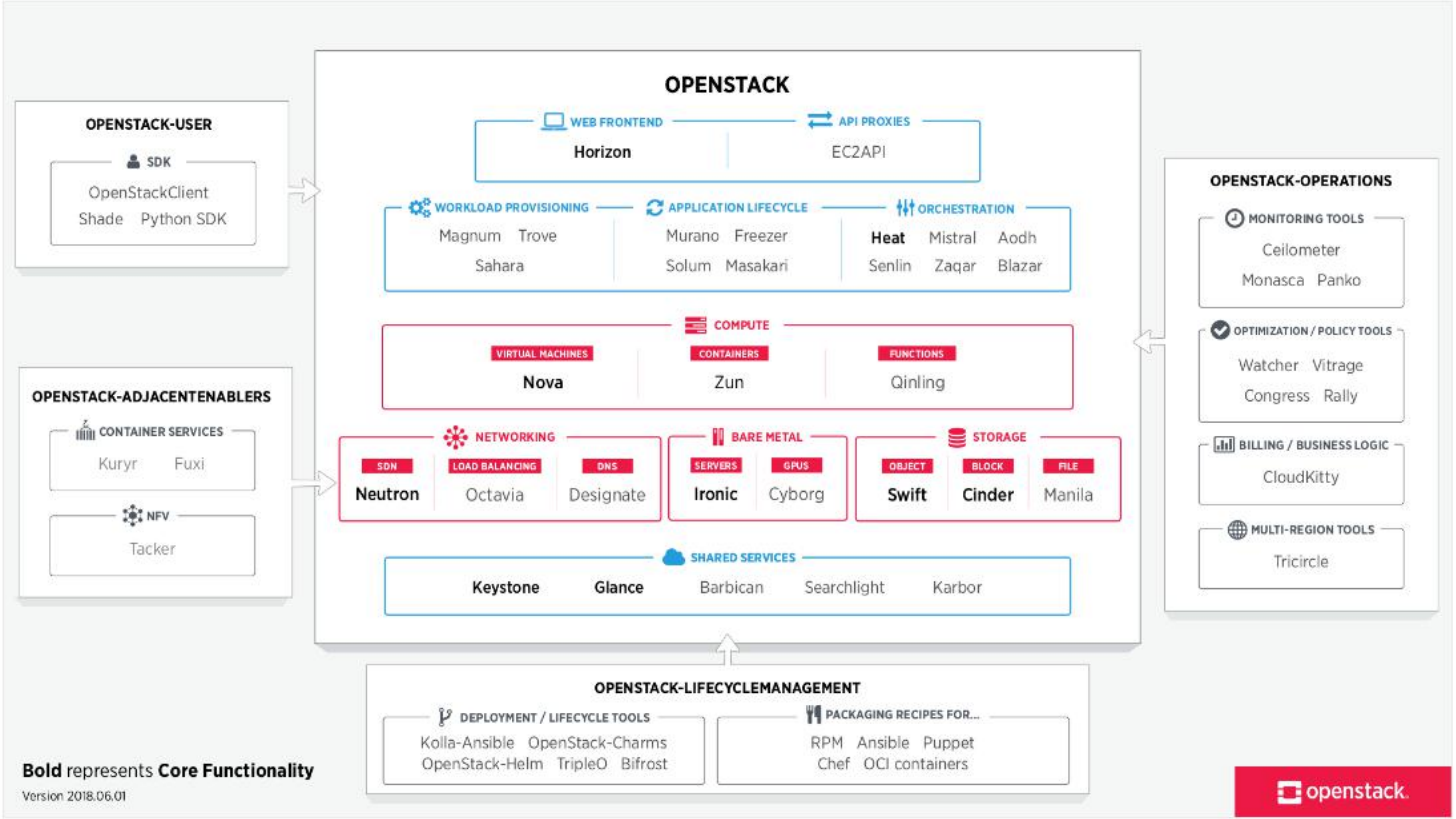
Big Tent

Optional Services (13 Results)

NAME	SERVICE	MATURITY	AGE	ADOPTION	DETAILS
Horizon	Dashboard	6 of 8	5 Yrs	92 %	More Details
Ceilometer	Telemetry	1 of 8	4 Yrs	62 %	More Details
Heat	Orchestration	6 of 8	4 Yrs	66 %	More Details
Trove	Database	3 of 8	3 Yrs	17 %	More Details
Sahara	Elastic Map Reduce	3 of 8	3 Yrs	11 %	More Details
Ironic	Bare-Metal Provisioning	5 of 8	3 Yrs	25 %	More Details
Zaqar	Messaging Service	4 of 8	3 Yrs	2 %	More Details
Manila	Shared Filesystems	5 of 8	3 Yrs	11 %	More Details
Designate	DNS Service	3 of 8	3 Yrs	19 %	More Details
Barbican	Key Management	4 of 8	3 Yrs	5 %	More Details
Magnum	Containers	2 of 8	2 Yrs	13 %	More Details
Murano	Application Catalog	1 of 8	2 Yrs	12 %	More Details
Congress	Governance	1 of 8	2 Yrs	2 %	More Details

OpenStack以项目为单位解决问题

LandScape


OPENSTACK-USER
SDK
OpenStackClient
Shade Python SDK
OPENSTACK-ADJACENTENABLERS
CONTAINER SERVICES
Kuryr Fuxi
NFV
Tacker
OPENSTACK
WEB FRONTEND
Horizon
API PROXIES
EC2API
WORKLOAD PROVISIONING
Magnum Trove
Sahara
APPLICATION LIFECYCLE
Murano Freezer
Solum Masakari
ORCHESTRATION
Heat Mistral Aodh
Senlin Zaqar Blazar
COMPUTE
VIRTUAL MACHINES
Nova
CONTAINERS
Zun
FUNCTIONS
Qinling
NETWORKING
SDN
Neutron
LOAD BALANCING
Octavia
DNS
Designate
BARE METAL
SERVERS
Ironic
GPUS
Cyborg
STORAGE
OBJECT
Swift
BLOCK
Cinder
FILE
Manila
SHARED SERVICES
Keystone Glance Barbican Searchlight Karbor
OPENSTACK-LIFECYCLEMANAGEMENT
DEPLOYMENT / LIFECYCLE TOOLS
Kolla-Ansible OpenStack-Charms
OpenStack-Helm TripleO Bifrost
PACKAGING RECIPES FOR...
RPM Ansible Puppet
Chef OCI containers
OPENSTACK-OPERATIONS
MONITORING TOOLS
Ceilometer
Monasca Panko
OPTIMIZATION / POLICY TOOLS
Watcher Vitrage
Congress Rally
BILLING / BUSINESS LOGIC
CloudKitty
MULTI-REGION TOOLS
Tricircle
Bold represents Core Functionality
Version 2018.06.01
openstack.

Compute

Compute (6 Results)

NOVA
Compute Service

GLANCE
Image Service

IRONIC
Bare Metal Provisioning Service

QINLING
Functions Service

MAGNUM
Container Orchestration Engine Provisioning

STORLETS
Computable Object Store

ZUN
Container Management Service

Storage, Backup & Recovery

Storage, Backup & Recovery (5 Results)

SWIFT
Object Store

CINDER
Block Storage

MANILA
Shared Filesystems

KARBOR
Application Data Protection as a Service

FREEZER
Backup, Restore, and Disaster Recovery

Networking & Content Delivery

Networking & Content Delivery (7 Results)

NEUTRON
Networking

DESIGNATE
DNS Service

DRAGONFLOW
Neutron Plugin

KURYR
Container plugin

OCTAVIA
Load Balancer

TACKER
NFV Orchestration

Data & Analytics

A

Data & Analytics (3 Results)

TROVE
Database as a Service

SAHARA
Big Data Processing Framework Provisioning

SEARCHLIGHT
Indexing and Search

Safety

Security, Identity & Compliance (4 Results)

KEYSTONE
Identity service

BARBICAN
Key Management

CONGRESS
Governance

MISTRAL
Workflow service

Deployment

Deployment Tools (6 Results)

CHEF OPENSTACK
Chef cookbooks for OpenStack

KOLLA
Container deployment

OPENSTACK CHARMS
Juju Charms for OpenStack

OPENSTACK-ANSIBLE
Ansible Playbooks for OpenStack

PUPPET OPENSTACK
Puppet Modules for OpenStack

TRIPLEO
Deployment service

Application

Application Services (4 Results)

HEAT
Orchestration

ZAQAR
Messaging Service

MURANO
Application Catalog

SOLUM
Software Development Lifecycle Automation

Monitoring

Monitoring & Metering (5 Results)

CEILOMETER
Metering & Data Collection Service

CLOUDKITTY
Billing and chargebacks

MONASCA
Monitoring

AODH
Alarming Service

PANKO
Event, Metadata Indexing Service

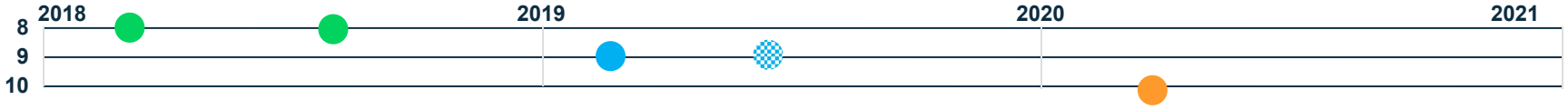
Multi Region

Openstack

从入门到放弃

SUSE OpenStack Cloud

SUSE OpenStack Cloud



8

Built On
- OpenStack Pike Release
- SUSE Linux Enterprise Server 12 SP3

New or Expanded Services
- SUSE CAP Integration
- Physical Server as a Service (Ironic)
- SDN Support for NSX-V
- Dual lifecycle manager options

Operational Enhancements
- Non-disruptive Upgrade to Cloud 8
- Planning and Pre-install Validation
- Simple Deployment UI
- Scale Testing 200 nodes
- Monitor Capacity and Performance
- 3-year support

8 Updates

Built on
- OpenStack Pike Release
- SUSE Linux Enterprise Server 12 SP3

New or Expanded Services
- SDN Support for Cisco ACI
- SDN Support for Juniper Contrail
- SDN Support for NSX-T
- SDN Support for Nuage
- OpenDaylight integration
- OPNFV framework integration

Operational Enhancements
- Lifecycle Tools Improvements
- mkcloud support
- SES Integration

9

Built On
- OpenStack Rocky Release
- SUSE Linux Enterprise Server 12 SP4

New or Expanded Services
- Containerized Control Plane**

Operational Enhancements
- IPV6 Support
- Policy-based Optimization**

9 Updates

Built On
- OpenStack Rocky Release
- SUSE Linux Enterprise Server 12 SP4

New or Expanded Services
- GPU Support

Operational Enhancements
- Scalability Improvements
- Multiple Site Support
  -Region Support
  -Federation
  -Multi-Data Center Support
- Cloud Monitoring
  -Lifecycle Events Monitoring
  -Advanced Log Analysis
  -Monitoring Analytics
- Integration with SUMA, SES
- Integration with SUSE Single Sign-on

10

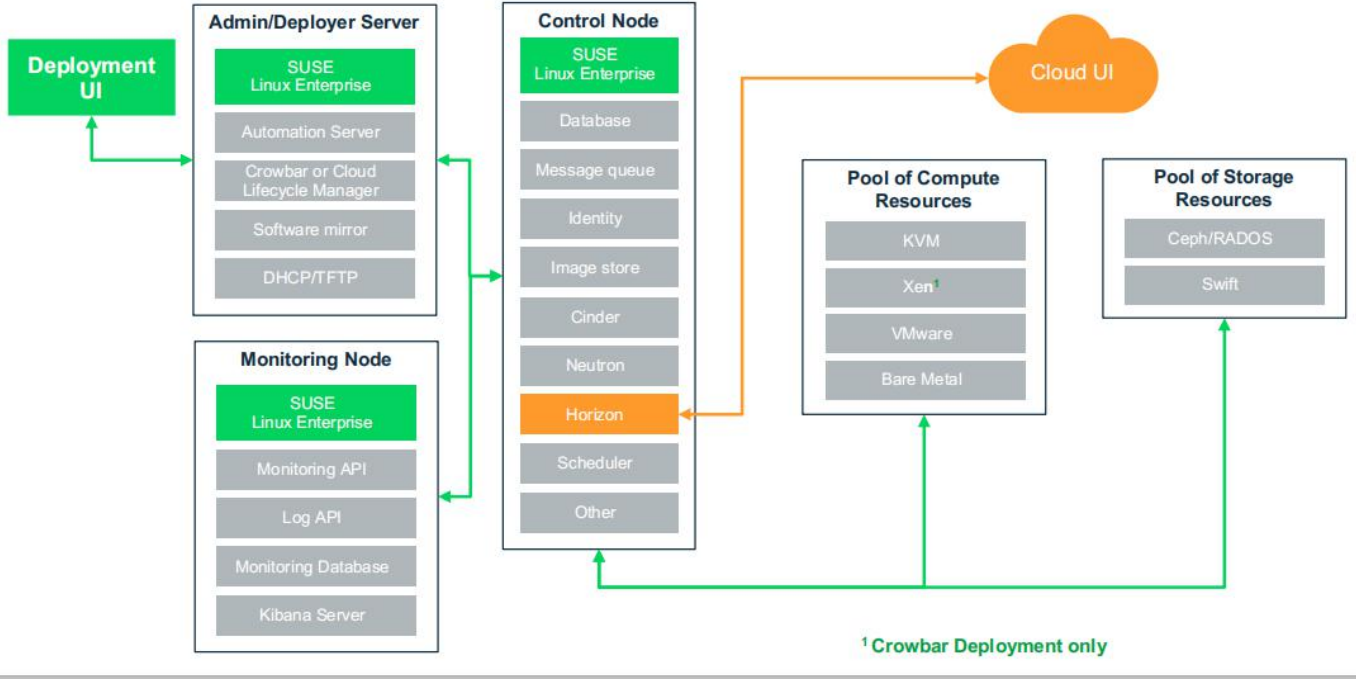
Built On
- OpenStack T Release
- SUSE Linux Enterprise Server 15

New or Expanded Services
- Containerized Control Plane
- Accelerator Engine Support

Operational Enhancements
- Multiple Site Enhancements
- DR Enhancements
- Root Cause Detection/Analysis/Repair
- Kubernetes Networking Configurations
- Workflow Automation

** Items are tech preview
* Information is forward looking and subject to change at any time.

SUSE OpenStack Cloud Architecture



SUSE OpenStack Cloud Features

- 基础架构
  - 操作系统:SUSE Linux
  - 虚拟化 KVM, Xen
  - 容器: Docker
  - 分布式存储：Ceph
  - 软件定义网络: OVS + VXLan (GRE)
  - 企业级OpenStack
- 部署架构
  - 基于成熟Chef + Crowbar
  - 基于Ansible的部署
- 高可用HA

  基于成熟可靠的SUSE HA方案Corosync + Pacemake
  控制节点HA
  计算节点HA
- 主流Hypervisor
  - KVM/Xen
  - Docker
  - VMWare ESX
  - MS Hyper-V
  - IBM z/VM

SUSE OpenStack Cloud Features

- 跨平台的**VM迁移**
  - VMWare VM→ OpenStack KVM
  - 物理机 → OpenStack
- 广泛的硬件和软件**兼容性**
  - 确保主流硬件兼容性
  - 确保虚拟化Hypervisor与VM的兼容性支持
  - 兼容多种后台存储方案
  - 兼容多种网络方案
- 成熟可靠、更长的**产品生命周期**

  有明确的产品Roadmap
  每一年发布一个大版本
  每个版本3-5年生命周期
- 在线、平滑的**版本升级**
- 系统**集中管理**:补丁管理,配置管理和系统监控
- **用户需求**导向, 快速响应用户需求
- 20多年的开源研发支持**基因**，经验丰富的研发和支持人员
  - 保证长期投入

Support for Core and Non-Core OpenStack Features

OpenStack Service	Packages	Supported		OpenStack Service	Packages	Supported
Aodh	No	No		Barbican	Yes	Yes
Ceilometer	Yes	Yes		Cinder	Yes	Yes
Designate	Yes	Yes		Freezer	Yes	Yes
Glance	Yes	Yes		Heat	Yes	Yes
Horizon	Yes	Yes		Ironic	Yes	Yes
Keystone	Yes	Yes		Magnum	Yes	Yes
Manila	Yes	No		Monasca	Yes	Yes
Monasca-Ceilometer	Yes	Yes		Neutron	Yes	Yes
Neutron(L-BaaSv2)	Yes	Yes		Neu-tron(VP-NaaS)	Yes	Yes
Neu-tron(FWaaS)	Yes	Yes		Nova	Yes	Yes
Octavia	Yes	Yes		Swift	Yes	Yes

Core Service Support

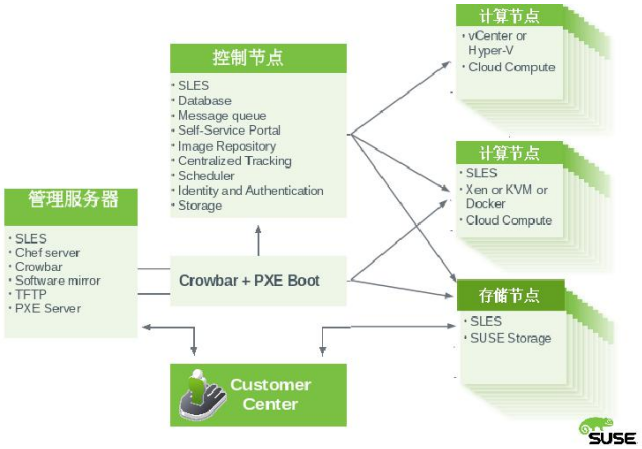
Nova

Supported	Not Supported
SLES KVM Hypervisor	Xen hypervisor
VMware ESX Hypervisor	Hyper-V
	Non-x86 Architectures

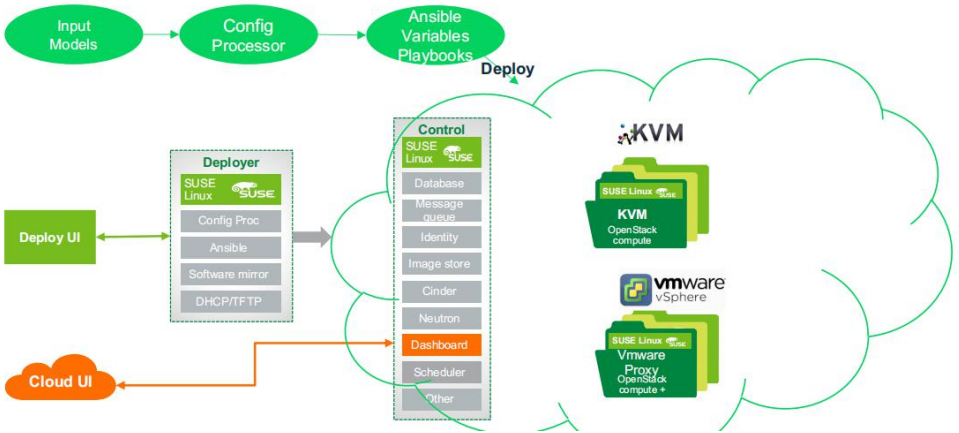
Neutron

Supported	Not Supported
Tenant networks • IPv6 • SR-IOV • PCI-PT • DPDK	Distributed Virtual Router (DVR) with any of the following: • IPv6 • BGP/Fast Path Exit • L2 gateway • SNAT HA
VMware ESX Hypervisor	

Deploy Tools

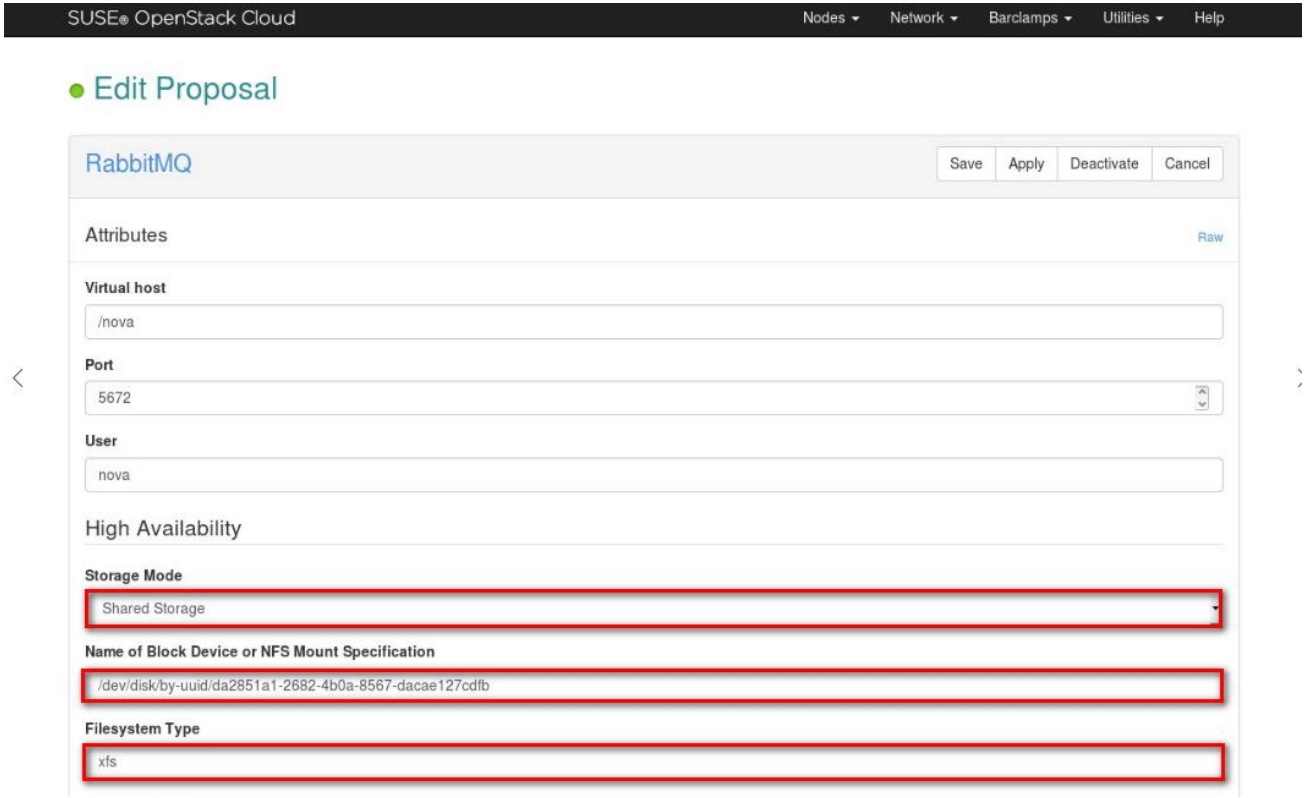


Crowbar Base

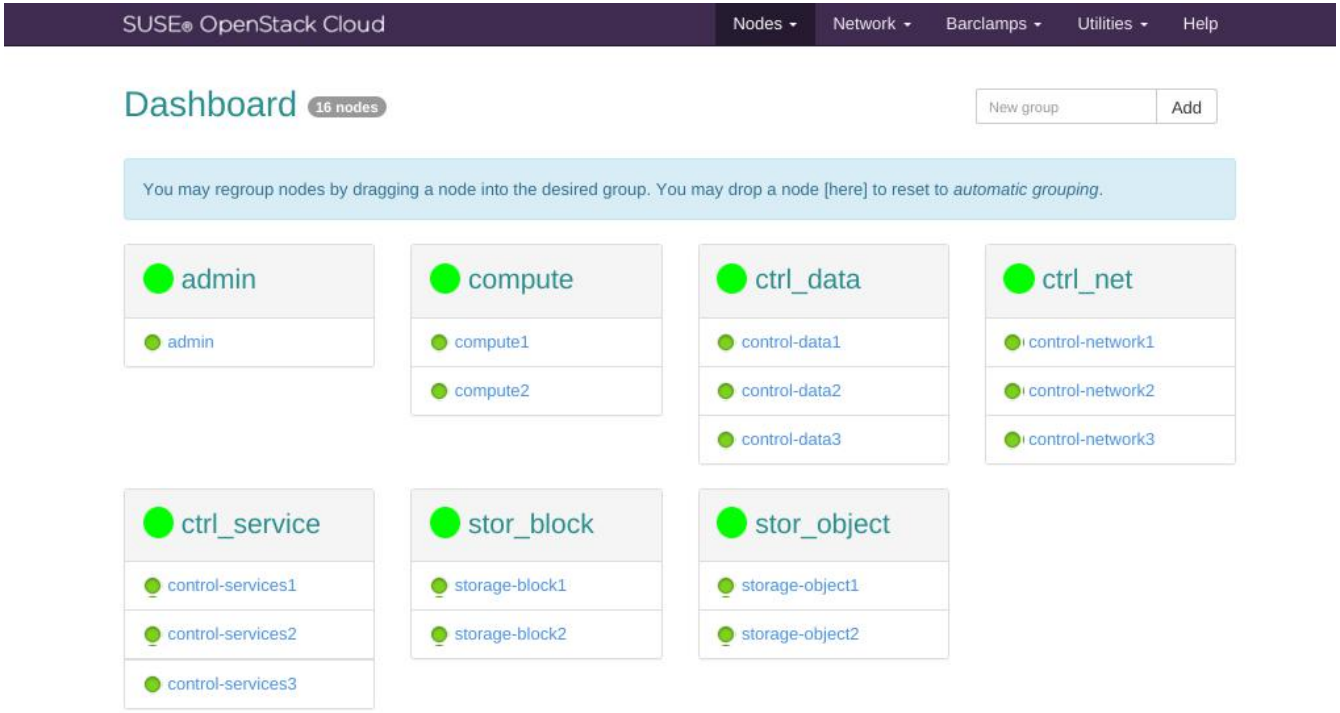


Cloud Lifecycle Management:Ansible Base

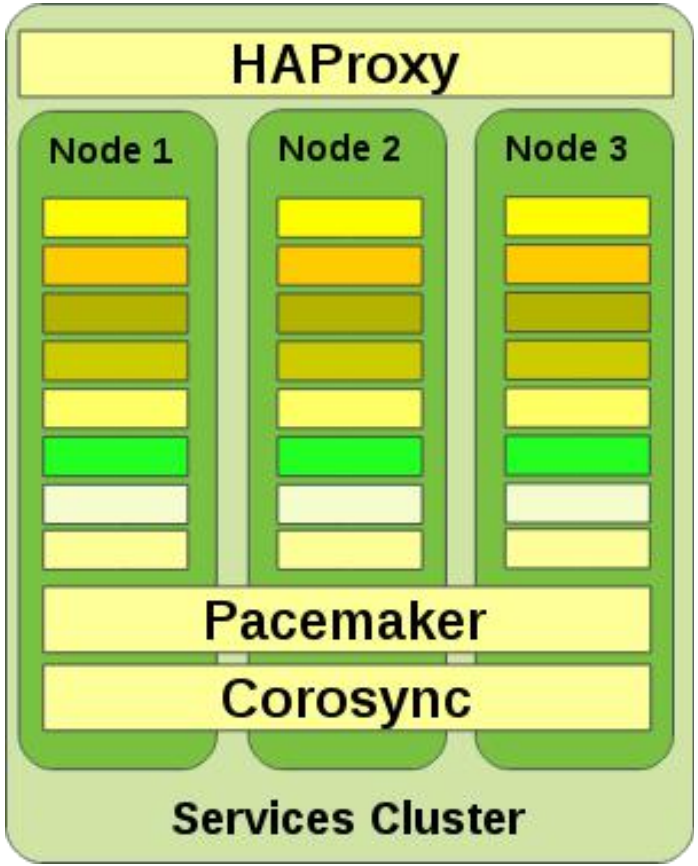
Crowbar UI


SUSE® OpenStack Cloud
Nodes
Network
Barclamps
Utilities
Help
Edit Proposal
RabbitMQ
Save
Apply
Deactivate
Cancel
Attributes
Raw
Virtual host
/nova
Port
5672
User
nova
High Availability
Storage Mode
Shared Storage
Name of Block Device or NFS Mount Specification
/dev/disk/by-uuid/da2851a1-2682-4b0a-8567-dacae127cdfb
Filesystem Type
xfs

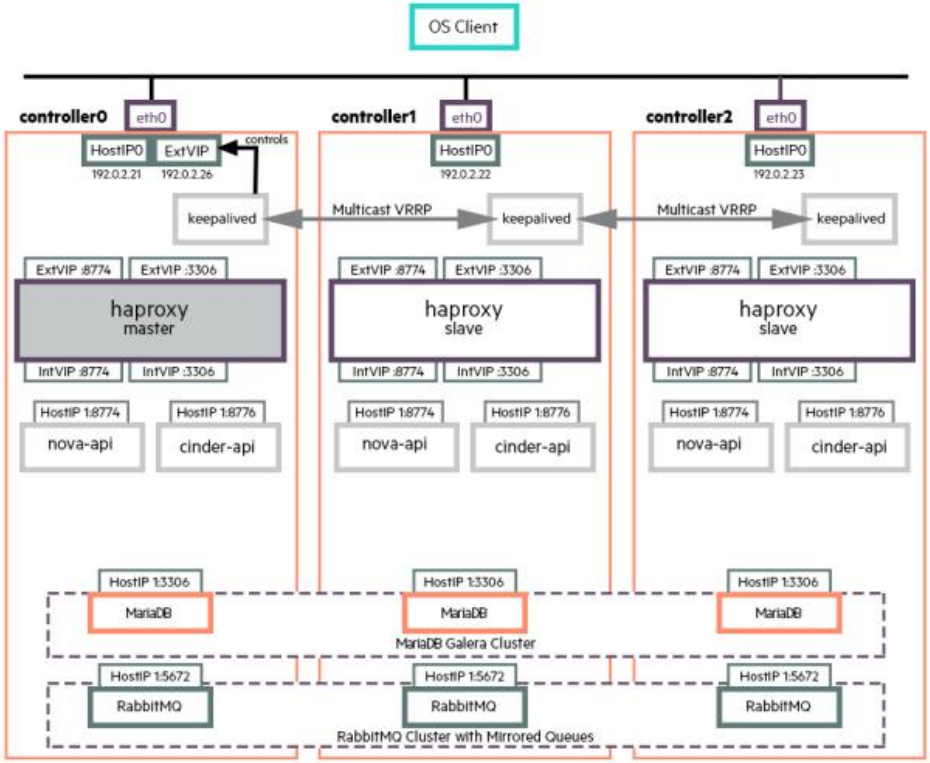
Crowbar UI Servers Management



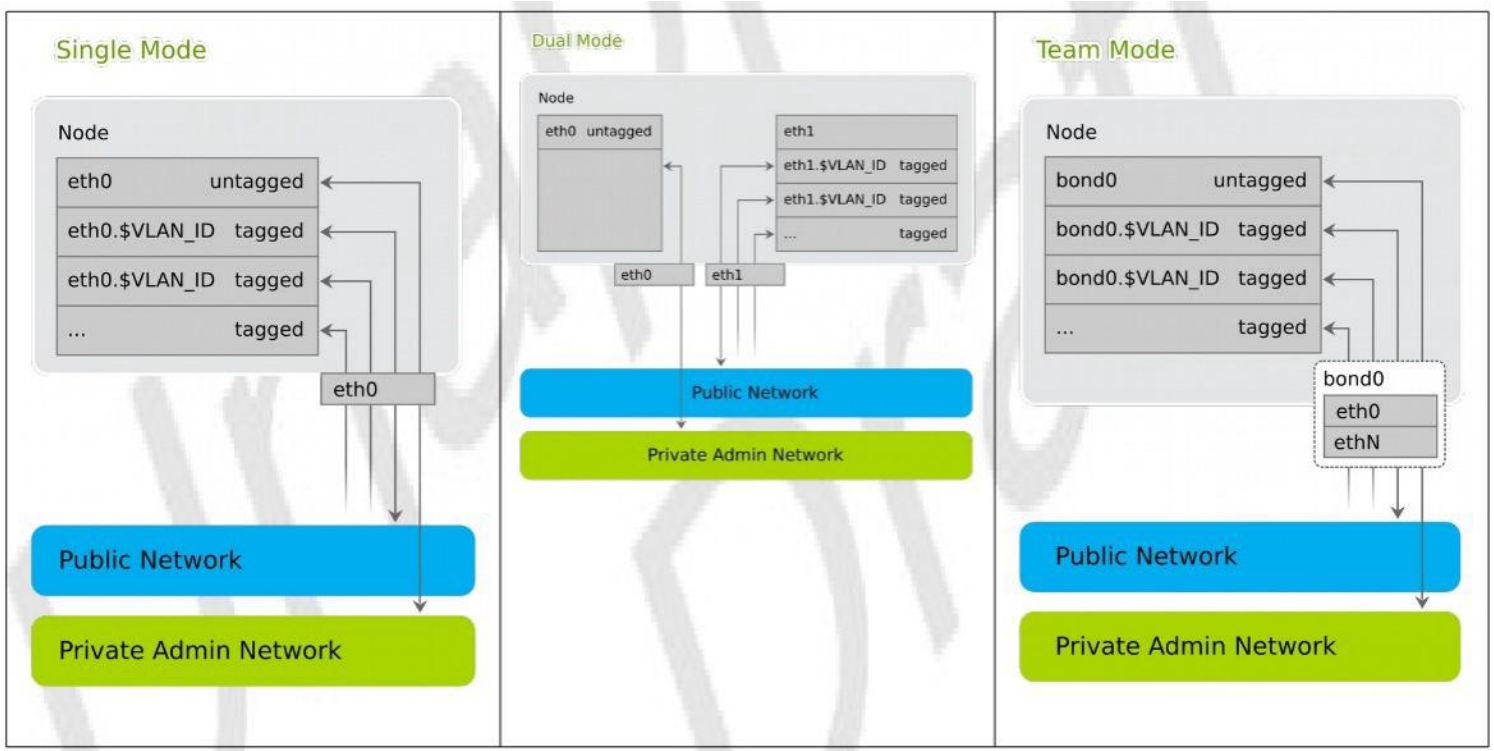
Crowbar Base HA Architecture



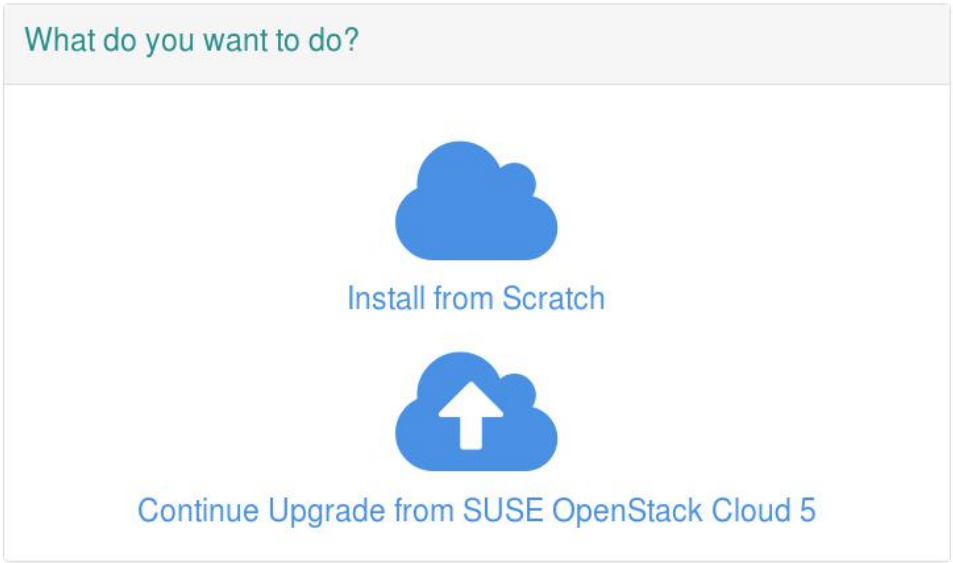
CLM HA Architecture



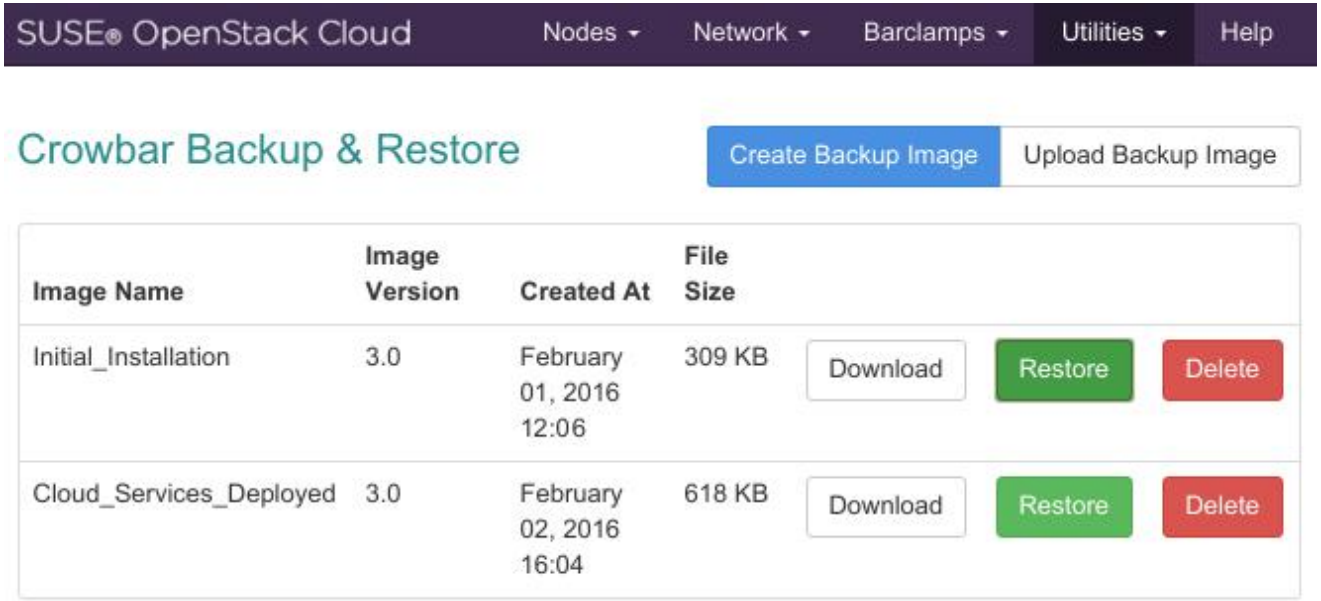
SUSE OpenStack Cloud Network



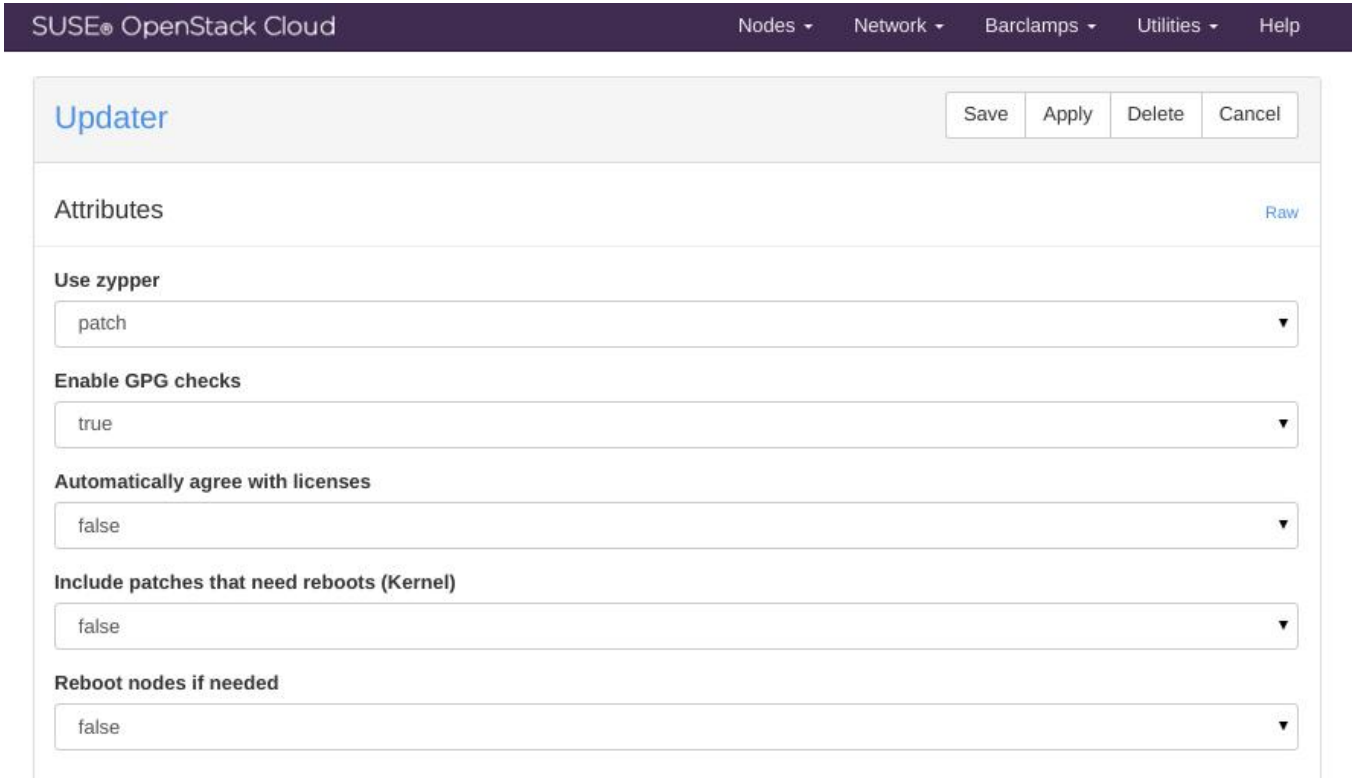
Upgrade


What do you want to do?
Install from Scratch
Continue Upgrade from SUSE OpenStack Cloud 5
SUSE® OpenStack Cloud 6 - Provided by SUSE®

Admin Backup Restore



Patch


SUSE® OpenStack Cloud
Nodes
Network
Barclamps
Utilities
Help
Updater
Save
Apply
Delete
Cancel
Attributes
Raw
Use zypper
patch
Enable GPG checks
true
Automatically agree with licenses
false
Include patches that need reboots (Kernel)
false
Reboot nodes if needed
false

Questions

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