

HO15982

Deploy OpenStack

The SUSE OpenStack Cloud Experience

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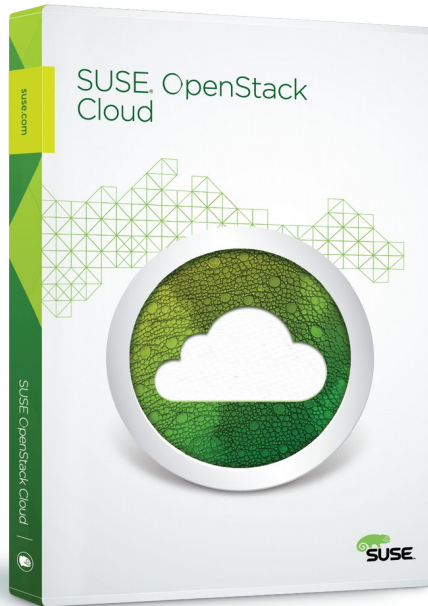


Agenda

- SUSE OpenStack Cloud Overview
- Getting Everyone Onboard: A Questionnaire
- Hands On Step by Step
 - Lab Overview
 - Admin Node Deployment
 - Infrastructure Node Deployment
 - Barclamp Configuration
 - Launch an Instance!

SUSE OpenStack Cloud Overview

SUSE OpenStack Cloud 5



Enterprise OpenStack distribution that rapidly deploys and easily manages highly available, mixed hypervisor IaaS Clouds

- Increase business agility
- Economically scale IT capabilities
- Easily deliver future innovations

SUSE OpenStack Cloud Mission

Taking the pain out of OpenStack Cloud

"OpenStack is...consistently recognized as overly complex to configure, deploy and upgrade."
451 Research Feb 2015

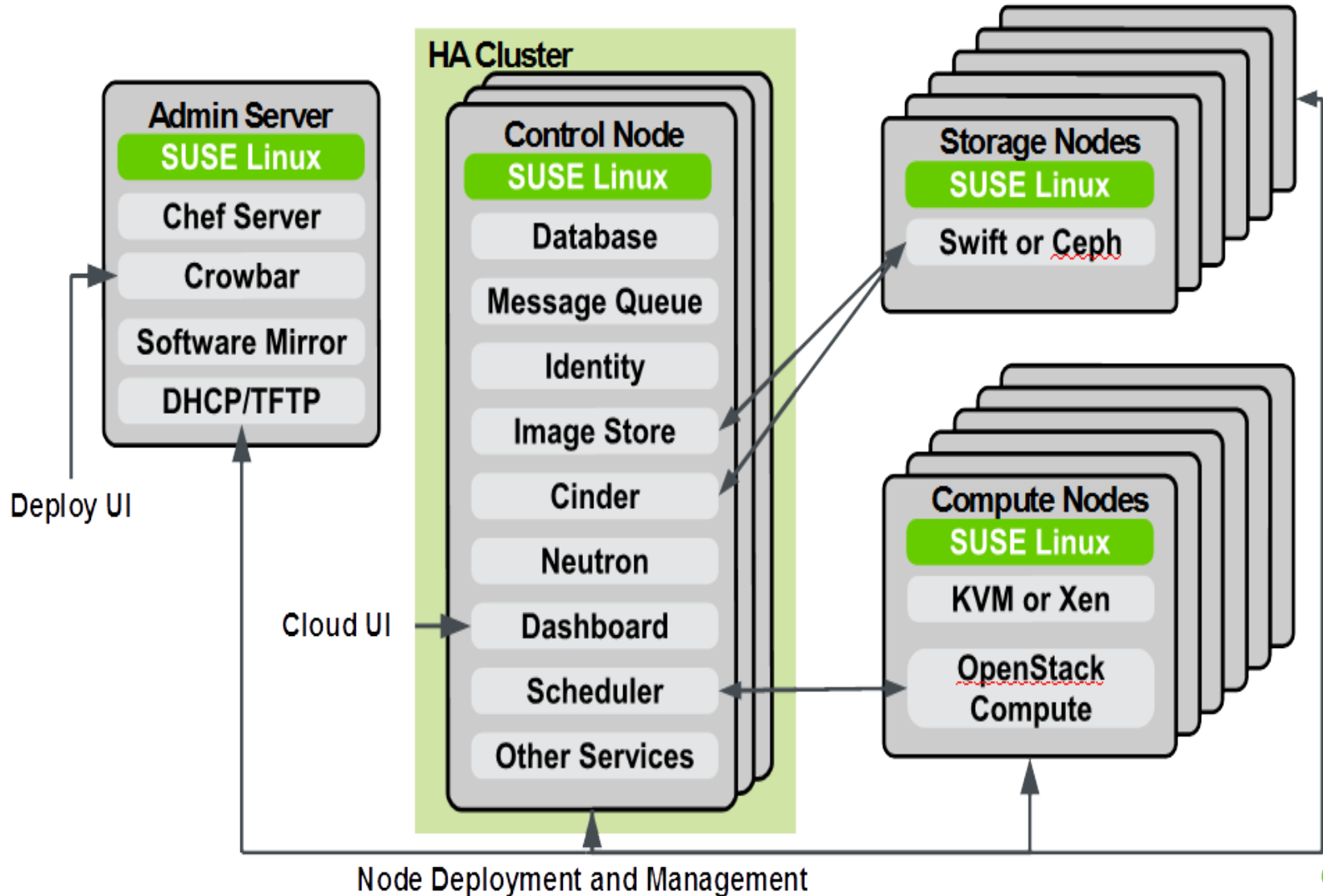


Most of us are looking for:

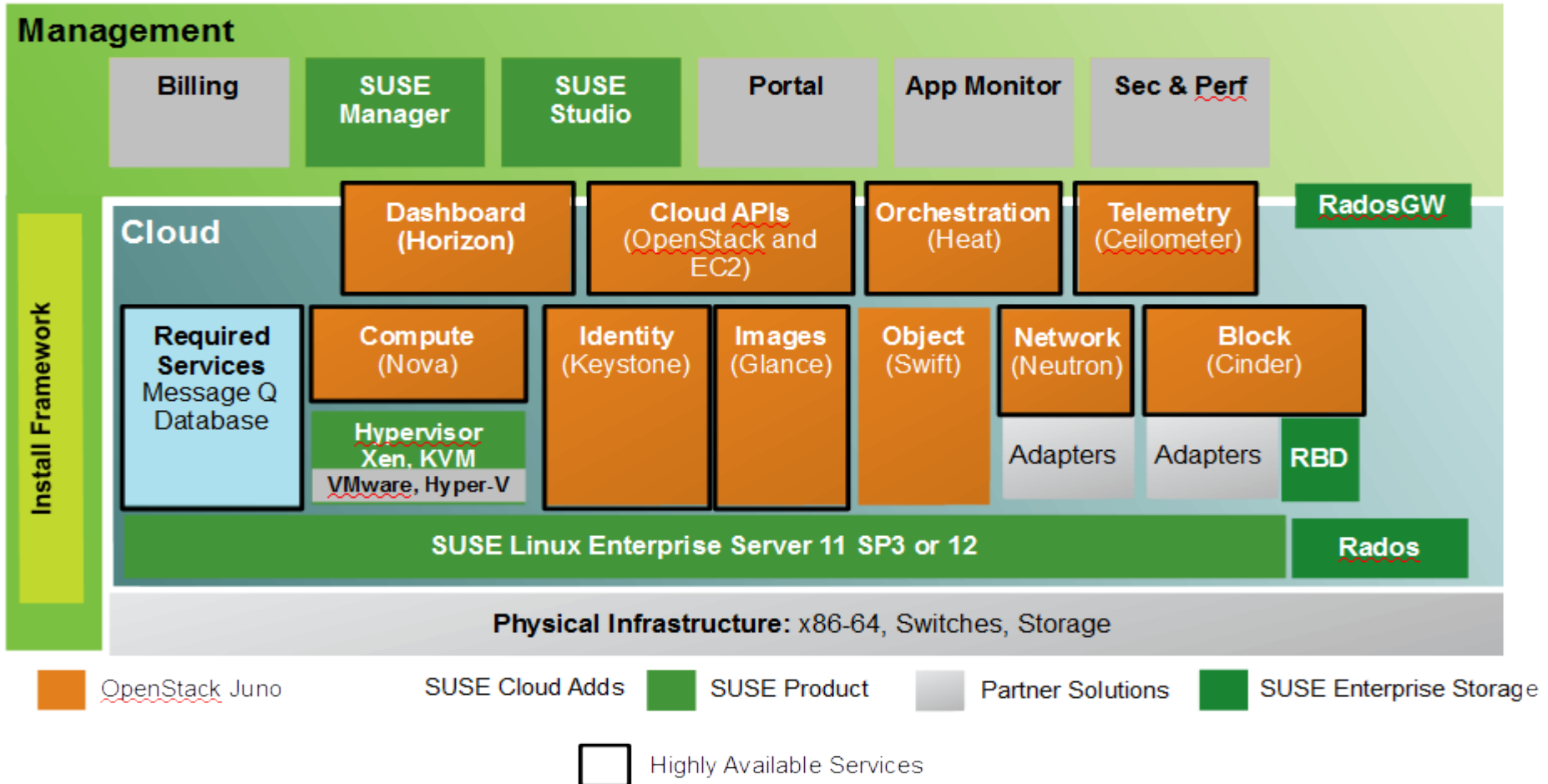
- A pre-built solution we can start driving now
- Quality, reliability and performance
- Top class service & support
- Excellent value



Components of an OpenStack Distribution



SUSE OpenStack Cloud 5 Architecture



Getting Everyone Onboard: A Questionnaire

A Questionnaire

- What is it
 - Starting point for a SUSE Cloud implementation
- Things to consider:
 - What are you trying to solve by implementing a private cloud?
 - Who are the users and what do they want out of it?
 - What are your business and technical requirements? (SLA, compliance)
 - Are there any constraints for the project? (Budget, deadline, manpower)
 - Additional resources required to successfully deploy your private cloud.

A Questionnaire

Before you get started

- Schedule a meeting to discuss
 - Hardware
 - Networking
 - High Availability
 - Source for media and SMT repos
 - Admin Appliance?
 - Backup/restore plan
 - What will the patching/upgrade strategy be?

A Questionnaire

Fill out the rest of the Questionnaire

- Download or Print from

- https://docs.google.com/a/seader.us/document/d/1MxW7_4nTH9-Fu9RRV8Hdl6TZfG3h_p6pGKIKuDG-Nqs/pub
- <http://tinyurl.com/nqektfa>

- Read the Deployment Guide

- https://www.suse.com/documentation/suse-cloud4/book_cloud_deploy/data/book_cloud_deploy.html
- <http://tinyurl.com/ndt5kjs>

- Other Sessions

- HO21490 - Hands on with SUSE OpenStack Cloud 5 - Ron Terry, training 4.5 hours
- TUT16018 - Planning an Enterprise OpenStack Deployment – Reference after SUSECon
- HO21469 - Automated Deployment of a Highly Available OpenStack Cloud - Vincent, Adam, Developers
- HO20028 - Heat, cloud-init and cloud-config: OpenStack Orchestration Deep Dive – Florian Haas

Lab Overview

Lab Overview

- VMware Workstation 12
- 4 or 5 VM's
 - 1 Admin, 2 Controllers, 1 Compute, and 1 Compute Optional
 - 2 Network interfaces (vmnet1, vmnet2) – Dual Mode
 - Admin Network (vmnet1) – Admin node will have 1 interface
 - 192.168.124.0
 - Public Network (vmnet2) – Shared with Private/Fixed and Public/Floating
 - 192.168.126.0
- Admin
 - 4GB RAM
 - 1 Network Interface (vmnet1) – 192.168.124.0

Lab Overview

- 2 Controllers
 - 4GB RAM
 - 1 Extra Disks 15GB for Database and RabbitMQ on DRBD
 - HA Stonith Device= meatware
 - Admin Network (vmnet1) – 192.168.124.0
 - Public Network (vmnet2) – 192.168.126.0
- 2 Compute (1 Optional)
 - 8GB RAM for each
 - 1 extra 50GB Disk for each used for Cinder local storage
 - Admin Network (vmnet1) – 192.168.124.0
 - Public Network (vmnet2) – 192.168.126.0

Admin Node Deployment

Admin Node Deployment

- Optional to follow Admin Appliance Guide:
 - <https://github.com/cseader/suse-cloud-appliances/blob/suse-cloud-4/docs/SUSE-Cloud-AA-Guide.md>
- Use SUSE OpenStack Cloud Admin Appliance
 - Attach iso file to cdrom to boot from
- Boot Admin node from cdrom
 - Destroy /dev/sda and lay down image
 - Walk through setup menus after image boots
- Configure YaST2 Crowbar
 - # VMware Networks – vmnet1(admin), vmnet2 (public/fixed)
 - Execute # yast crowbar
 - Setup network in dual mode
 - Uncheck vlan on public and floating
 - Change admin router to 192.168.124.2
 - Change public router to 192.168.126.2
- Execute install-suse-cloud
 - Execute # screen install-suse-cloud
- Access Crowbar interface at <http://192.168.124.10:3000/>

Infrastructure Node Deployment

Infrastructure Node Deployment

- Spin up all Nodes
 - Notice as they PXE boot
- Allocate nodes one at a time or staggered
 - Nodes → Bulk Edit
 - Controllers need to be SLES 11 SP3
 - Compute can be SLES 12 or SLES 11 SP3

Barclamp Configuration

Barclamp Configuration

- Pacemaker Setup for HA
 - Create Cluster Proposal and apply to both Controllers
 - Type in meatware for “Fencing agent” field
 - Agent Parameter: `hostlist="ip_of_controller1,ip_of_controller2"`
- Deploy the Database (PostgreSQL)
 - Select DRBD with size of 7GB
 - Apply to Cluster
- Deploy RabbitMQ
 - Select DRBD with size of 7GB
 - Apply to Cluster

Barclamp Configuration

- Deploy Keystone
 - Take Default and Apply to Cluster
- Deploy Glance
 - Take Defaults, deploy to controller1
- Deploy Cinder
 - Raw device backend, deploy to cinder-controller to the cluster
 - First available disk selected
 - Deploy cinder-volume to 1 or both compute nodes

Barclamp Configuration

- Deploy Neutron
 - ml2 plugin
 - Select ml2 driver openvswitch
 - Type vlan
 - Apply neutron-server and neutron-l3 to Cluster

Barclamp Configuration

- Deploy Nova
 - Enable libvirt Live Migration
 - Apply nova-multi-controller to the Cluster
 - Apply compute nodes to nova-multi-compute-kvm or split them between kvm and xen if you like.
- Deploy Horizon
 - Apply to Cluster

Launch an Instance!

Launch an Instance!

- Create and Upload image from directory on Host
 - SLES12-JeOS-for-kvm-and-xen.x86_64-GMC.qcow2
 - Create Security Group
 - Open sshd and icmp ports
 - Create keypair for passwordless login
 - Optional, Create a flavor
 - Launch an image under the OpenStack Tenant
- Have a lot of fun!





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