SUSE OpenStack Cloud 7 and Beyond

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OpenStack Then ... 2012

Dashboard (Horizon)  Native (EC2)

Authentication (Keystone)  Compute (Nova)

Block  Network

Images (Glance)  Object (Swift)

Required Services
Message Q / Database

Hypervisor (Xen, KVM)

Operating System

Physical Infrastructure: x86 Servers

OpenStack components

Required Components

Storage  Network  APIs
OpenStack Now

**OpenStack components**
- Storage
- Network
- APIs
- Services

**Required Components**
- Message Q / Database
- Backend Adapters

**Hypervisor**
(Xen, KVM, HyperV, VMware, z/VM, Docker)

**Operating System**

**Physical Infrastructure**:
x86 Servers, System z, Storage, Networking

**OpenStack components**
- Dashboard (Horizon)
- Native EC2
- Measurement (Ceilometer)
- Orchestration (Heat)

**Authentication (Keystone)**

**Compute (Nova)**

**Images (Glance)**

**Object (Swift)**

**Block (Cinder)**

**Files (Manila)**

**Network (Neutron)**

**Backend Adapters**
- Native EC2
- Heat
- Celomcter

**Required Services**
- Message Q / Database
- Backend Adapters

**Backend Adapters**
- Container (Magnum)
- LBaaS
- DNS (Designate)
- Database (Trove)
- Big Data (Sahara)
SUSE OpenStack Cloud 2016 Themes

- Base Evolution and Enhancements
- New or Expanded Services
- Operational Enhancements
Base Evolution and Enhancements

- OpenStack Newton
- SLES 12 SP2
- Continued UX enhancements
OpenStack Newton Highlights - Keystone

- LDAP back end performance enhancements thru mapping
- First time Token validation caching to increase initial access
- Support for encrypted credentials at rest increasing system security.
OpenStack Newton Highlights - Horizon

- Horizon and Horizon Plugins access Keystone Token from JavaScript
- More responsive UI through direct CORS calls to other OpenStack Services.
- Support for custom configs
- Support for managing neutron L3 agent hosts from admin dashboard.
- Admin dashboard Floating IPs panel has been added to Horizon.
OpenStack Newton Highlights - Heat

- Convergence mode as default engine
- Addition of Conditional statements
- Inclusion of external resources
- Implemented Yaql
OpenStack Newton Highlights - Nova

- API Policy default values in code
- Live migration enhancements
  - Performance improvement through CPU throttling and use of post-copy
  - API for list/show of live migrations
  - Evacuate and live-migrate test destination hosts against original filter requests
- Scheduler enhancements:
  - Support for CPU thread policies to control guest placement
  - Disk space filtering to prefer hosts with most available disk space
- Get Me a Network
OpenStack Newton Highlights - Networking

• Support for QoS features for ports and networks
• vlan-aware-VMs feature to launch VMs on a single port
• Performance improvement when using Openvswitch
• Improved performance for High Availability requests
OpenStack Newton Highlights - Cinder

- Pool weighting to balance/optimize data placement
- Delete volumes and snapshots with single command
- Wider range of supported drivers and services
OpenStack Newton Highlights - Telemetry

• Support for Magnum to capture bay statistics
• New meters to enable cache management:
  – Memory bandwidth statistics based on Intel CMT
  – Meters monitoring cache misses
• Message batch processing
• Composite rules using and/or constructs
Project coverage: SUSE OpenStack Cloud 6

- Nova
- Neutron
- Cinder
- Glance
- Heat
- Keystone
- Telemetry
- Swift
- Horizon
- Ironic
- Sahara
- Designate
- Trove
- OpenStack Client (OSC)
- Docs
- Oslo
- Manila
- OpenStack Ansible
- Murano
- TripleO
- Murano
- Kolla
- Rally
- Magnum
- Barbican
- Kuryr
- RefStack
- Tempest
- Oslo
- Oslo
- Oslo
- Oslo
- Oslo
- Oslo
Project coverage: SUSE OpenStack Cloud 7
SUSE OpenStack Cloud 7 - New or Expanded Services

- Magnum support for Docker orchestration
- Manila Integration with CephFS
- z/VM Control Plane
- Self-service physical server deployment
- Cloud Foundry Integration
- Service catalog
- Partner support
  - Plugin integration
  - Deployment integration
SUSE OpenStack Cloud 7 - Operational Enhancements

- Live (non-disruptive) Upgrade
- Post-GA (subject to change)
  - Multi-data center deployment
  - Virtual Machine HA
  - Day 2 management
    - Network reconfig
    - Central Logging and log visualization
Install Framework Upgrades

• Increased scalability
• Configuration support:
  – Magnum and Kubernetes
  – Ironic
  – Sahara
  – Murano
Please note: This information is forward-looking and is subject to change at any time.
### SUSE Portfolio for the Future

#### Management
- SUSE Manager
- SUSE Studio
- Kiwi
- Machinery
- SaltStack
- SUSE OpenStack Cloud

#### Infrastructure APIs

<table>
<thead>
<tr>
<th>SUSE OpenStack Cloud</th>
<th>Hadoop</th>
<th>Cloud Foundry</th>
<th>SUSE Linux + Docker</th>
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</thead>
<tbody>
<tr>
<td>SLES</td>
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<td>JeOS</td>
<td>JeOS</td>
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</table>

#### Software Defined Everything
- KVM, Xen (VMware, HyperV)
- SUSE Enterprise Storage
- OVS/OVN (partners)

#### SUSE Linux Enterprise Server

#### Physical Infrastructure: Server, Switches, Storage

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**SUSE Cloud Service Provider Program**
