



SUSE® OpenStack Cloud

The digital economy is driving the need for fast IT transformation. Is your business able to keep up? The pace of change can be painful to manage, but it also creates new opportunities. SUSE® OpenStack Cloud provides a Software-Defined Infrastructure-as-a-Service (IaaS) for your data center, with access to pools of IT resources to quickly deploy and run applications. This gives you the flexibility to respond quickly and easily to new demands, providing the ideal platform for increased innovation, while helping you to control and reduce costs.

SUSE OpenStack Cloud at a Glance:

Open source cloud solution of choice for enterprise businesses.

- + Flexibility to respond quickly
- + Increase innovation leveraging the latest technologies
- + Control and reduce costs

“With SUSE OpenStack Cloud, we are able to provide a self-service driven offering for infrastructure-as-a-service out of the on-premise data centers. This gives our customers more agility and flexibility building up infrastructure as they need in their own small virtual data center, reducing shadow IT while retaining governance.”

MARKUS FORSTER

Project Lead ZF Cloud
ZF Friedrichshafen AG

Product Overview

SUSE OpenStack Cloud is the open source cloud solution of choice for enterprise business, helping you respond quickly to today's ever-changing business-critical demands.

SUSE OpenStack Cloud enables you to:

- **Deliver improved agility, innovation and faster time to value** to conquer today's competitive, market and business challenges with an enterprise-grade OpenStack private cloud
- **Take the pain out of getting the robust, production ready private cloud you need** to run business-critical workloads and drive business growth, with fast deployment, easy management and enhanced high availability
- **Reduce costs, improve efficiency and maximize choice** by enabling IT transformation and leveraging existing infrastructure investments”

Key Benefits

- **Deliver improved agility, innovation and faster time to value.** Backed by the widest industry support and

most vibrant open source community support, OpenStack is ideal for developing new, innovative business workloads and DevOps environments as well as for transforming traditional data centers. SUSE OpenStack Cloud enables you to take full advantage of new business opportunities and rapidly evolving technology by enabling you to quickly deploy and easily manage an OpenStack private cloud infrastructure. With a choice of lifecycle management tools offering you more flexibility in deploying, maintaining and managing your environment, SUSE OpenStack Cloud delivers the operational agility, speed, scalability and control you need.

- **Take the pain out of getting the robust, production ready private cloud you need.** SUSE OpenStack Cloud is the fastest to deploy, configure and manage, helping accelerate the delivery of real business benefits. Avoid the pain of unplanned downtime with automated deployment of advanced HA for critical cloud services and automated data backup and recovery to ensure uninterrupted access to the key resources and

data your business needs. And with enhanced HA for compute nodes within your OpenStack private cloud, the widest multi-hypervisor support, bare metal provisioning and the broadest interoperability, SUSE OpenStack Cloud helps simplify the transition of traditional and business-critical workloads.

- **Reduce costs, improve efficiency and maximize choice.** Maximize the value of IT investments by modernizing and transforming your existing traditional data center into a private cloud. SUSE OpenStack Cloud has the broadest hardware certification, the most comprehensive workload support, the best interoperability on the market and comes with industry-leading support for the entire OpenStack cloud platform. And with the widest choice of hypervisor and architecture

“Thanks to SUSE OpenStack Cloud, we can deliver the reliable, secure, flexible cloud services that clients want—at highly competitive prices. As the appetite for cloud services continues to grow in Asia, we are confident that with SUSE OpenStack Cloud, we can deliver on that demand.”

PAUL HUI
Director of Business Development
Sereno Clouds

support, you can improve efficiency by ensuring new applications can be developed using the most appropriate hypervisor and existing workloads can be more easily migrated. Powered by OpenStack, SUSE OpenStack Cloud helps you avoid the risks of vendor lock-in and the high cost often associated with proprietary offerings.

Key Features

SUSE OpenStack Cloud is powered by the OpenStack Pike release for fast and easy access to the latest open source technologies for best-in-class private cloud capabilities.

- **Cloud Lifecycle Management:** Crowbar and Ardana based options provide you more flexibility in deploying, maintaining and upgrading your environment.
- **Mixed Hypervisor Support:** Enhanced virtualization management through support for multi-hypervisor environments that use KVM, Xen and VMware.
- **High Availability:** Automated deployment and configuration of control plane clusters. Ensures continuous access to business services and delivery of enterprise-grade SLAs.
- **High availability for KVM and Xen Compute Nodes and Workloads:** Enhanced support for critical workloads not designed for cloud architectures.
- **Ceph and CephFS support:** Unified block, object and file storage delivered via SUSE Enterprise Storage™ and the integration of OpenStack Manila.
- **Block Storage Plug-Ins:** Integrates storage options from a broad range of vendors such as EMC, NetApp and others.
- **Container-as-a-Service:** Build and run innovative containerized applications with full support of docker open source technology using Kubernetes for container orchestration via integration with SUSE CaaS Platform for automated Kubernetes deployment or bring your own images with OpenStack Magnum.
- **Scalability:** Cloud control plane designed to grow with your demands.
- **Open APIs:** Enhance and integrate OpenStack with third-party software using standard APIs.
- **Networking Plug-Ins:** Integrates with a wide range of both Open Source and Commercial Software Defined Networking technologies and vendors including Cisco, VMware, Infoblox, Nuage Networks, PLUMgrid, Open vSwitch and VLAN bridging solutions.
- **Award-winning Support:** Backed by 24x7 worldwide technical support.
- **Full Integration into SUSE Update Processes:** Easily maintain and patch cloud deployments.
- **Non-disruptive Upgrade Capabilities:** Ease migration to future SUSE OpenStack Cloud releases.

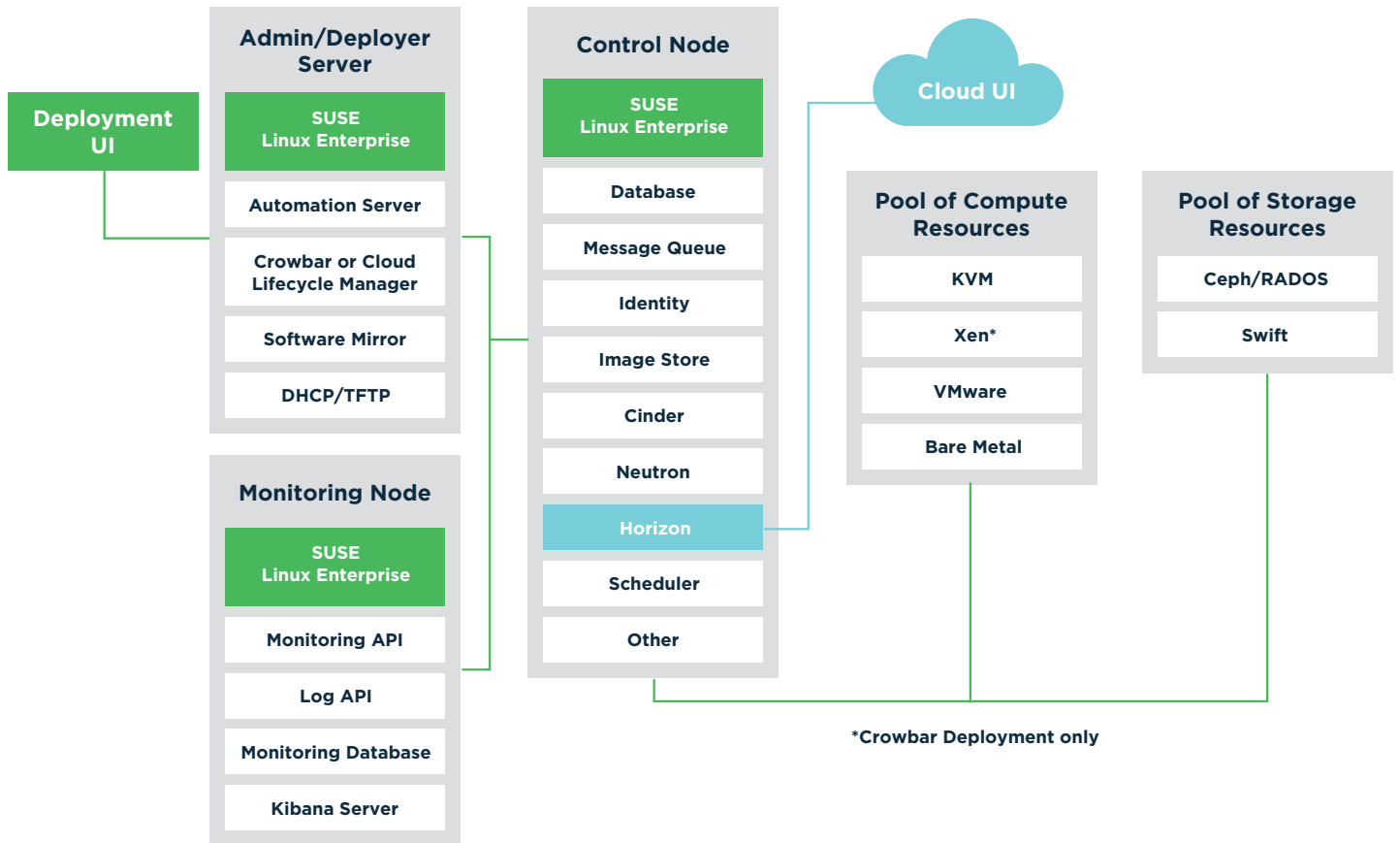


Figure 1. Reference Architecture

OpenStack Services Supported

SUSE OpenStack Cloud includes support for the following OpenStack services:

- Compute (Nova)
- Self-Service Dashboard (Horizon)
- Object Storage (Swift)
- Block Storage (Cinder)
- Software-Defined Networking (Neutron)
- Template & Image Repository (Glance)
- Identity Management Service (Keystone)
- Orchestration (Heat)
- Bare Metal Provisioning (Ironic)
- Container Orchestration Engine and Provisioning (Magnum)
- Monitoring (Monasca)
- Key Management (Barbican)
- Metering and Data Collection (Ceilometer)
- Shared Filesystems (Manila)¹
- Backup, Restore and Disaster Recovery (Freezer)²
- DNS Service (Designate)²
- Load Balancer (Octavia)²

1 Supported with Crowbar deployment only

2 Supported with Cloud Lifecycle Manager deployment only

“With SUSE OpenStack Cloud, we can provide scientists with their own virtual machines in our private cloud in as little as 10 minutes, enabling them to deploy the scientific workflows themselves, as and when they want.”

DR. BORRIES LUBERACKI

Head of HPC Operations

Gregor Mendel Institute of Molecular Plant Biology

Contact us at:
www.suse.com

System Requirements

Components for deploying and managing private clouds include:

- **Admin/Deployer Server:** Deploys, configures and provisions the SUSE OpenStack Cloud control, compute and storage nodes.
 - **Control Nodes:** One or more control nodes provide the self-service, image repository and management capabilities.
 - **Control Nodes for VMware:** One or more control nodes to provide self-service image repository and management capabilities for servers running ESXi through vCenter.
 - **Compute Nodes:** The physical servers that host KVM or Xen VMs for workloads running in the private cloud or that integrate with VMware vCenter.
 - **Swift Storage Nodes:** The physical servers that host object storage using Swift.
- The minimum technical requirements are:
- **x86_64 Server:** Intel Xeon or later or AMD Opteron or later, 2 GHz, 512 K cache or equivalent (Recommended: Intel or AMD multi-core processor, 2.4 GHz) with Intel-VT or AMD-V virtualization extensions.
 - **Administrative Server:** 8 GB RAM (32 GB recommended); 40GB hard disk space
 - **Control Nodes:** 8 GB RAM (32 GB recommended); 4 GB hard-disk space (30 GB recommended for production). Additional hard-disk storage is required for virtual machine images, volumes and snapshots launched on the compute nodes.
 - **Compute or Swift Storage Nodes:** 4 GB RAM plus additional RAM for each virtual machine (16 GB recommended for production); 30 GB hard-disk space plus additional space for virtual machine local storage or distributed object storage. (Note: support of Ceph requires SUSE Enterprise Storage.)

SUSE Select Services is the perfect complement to SUSE OpenStack Cloud. A fixed-priced, flexible services offering combining consulting, training and maintenance, Select Services will jumpstart your new SUSE OpenStack Cloud deployment to help you realize rapid ROI.

For more information visit: www.suse.com/cloud