Data Fabric Essentials— OpenStack Solution Kit

Get up and running on an OpenStack private cloud in days, not months, with known costs and without the design and implementation risk

Key Benefits

Take OpenStack from concept to reality
This prescriptive solution takes the guesswork and risk out of deploying OpenStack. The solution underwent extensive testing and documentation is available for both the software and hardware components for a hardened, enterprise-grade OpenStack production deployment.

Provide the agility of the cloud on your premises
You can deliver competitive cloud services to your business clients with the same speed and ease as that of a public cloud but at less cost.

Have cloud services on your terms
You can be accountable to the business with enterprise-class service levels while maintaining data governance and control. Stay in control with the freedom to move data between your premises and the public cloud.

Many companies are challenged today with uncontrolled deployment of applications in public clouds. Although applications are fast and easy for users to provision, there is growing recognition on the limitations of the public cloud as applications scale, including data governance concerns and escalating service bills. Although the use of the cloud is growing overall, recent reports have shown that as many as 68% of surveyed companies using cloud had moved selected applications off of a public cloud.

To regain control of cloud-deployed applications and data, IT needs an on-premises platform that offers the same speed and ease of provisioning but at a lower cost than that of public clouds. The platform needs to natively support apps built for the public cloud but avoid the hypervisor lock-in and licensing costs of some private clouds.

NetApp, Cisco, and Red Hat teamed together to specify, build, and test a complete OpenStack-based data center infrastructure solution that enables you to quickly deploy a public-cloud-compatible private cloud. With the solution, applications can move easily between public and private cloud environments, enabling you to manage and maintain control of your data across cloud environments at all times.

Key Features

Deliver better cloud services with enterprise SLAs
Achieve better performance, availability, and security than that of public cloud services with an enterprise-proven architecture.

Get the best-performing OpenStack platform while using half the compute nodes with FlexPod®
- Boot 1,000 instances on Cinder volumes in 26 minutes instead of the typical 150 minutes
- Delete 1,000 instances on Cinder volumes in 6.4 minutes instead of the typical 17 minutes

Dynamically scale
The FlexPod design is highly scalable, from 100 VMs to tens of thousands of VMs, with frictionless movement of data between flash, disk, and cloud environments.

Deploy with confidence
Industry leaders Red Hat, NetApp, and Cisco tested and validated the solution to reduce design, implementation, and operational risk. The three companies work together to keep your environment running through our Cooperative Support program.

Reduce the cost of running cloud apps
Once you reach a certain scale, moving apps on into a private environment makes sense. Doing so enables you to avoid high monthly service costs with a platform that can be shared across cloud services and traditional applications.

■ NetApp®
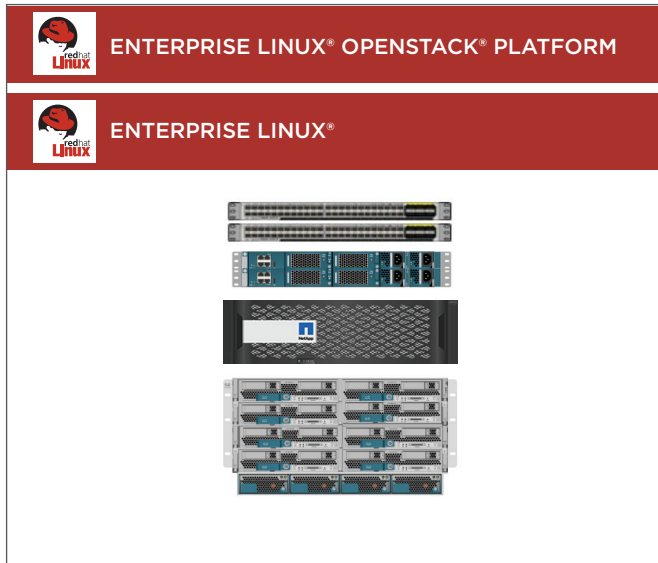
The OpenStack solution supports approximately 360 moderately sized VMs. The solution can easily be scaled up or down to meet your specific needs.

Call to Action

To get a preliminary quote for building a private cloud for your organization, contact your NetApp, Cisco, or Red Hat sales representative.

Solution Elements

Software

- Red Hat Enterprise Linux OpenStack Platform 6
- Red Hat Enterprise Linux version 7.1

OpenStack Services

- Glance: Image Service
  - Deduplication
  - NetApp® Copy Offload Tool

- Cinder: Block Storage Service
  - Storage Service Catalog defined through NetApp policy-based storage automation
  - Instance caching

- Neutron: Network Service
  - Security and visibility with Cisco Nexus 1000v for KVM

- Nova: Compute Service
  - Assuming VM Profile of: 1vCPU, 60 GB of storage, and 4 GB of RAM
  - 90 instances supported per Compute host, or 360 total

- Swift: Object Storage Service
  - NetApp E-Series E5660 can be added to satisfy large object storage requirements

Hardware

- 2x Cisco UCS 6248UP fabric interconnects
- 1x Cisco UCS 5108 chassis
- 8x Cisco UCS B200 M4 blades—2x E5-2660 2.6-GHz CPUs, 384GB RAM
- 2x Cisco Nexus 9372PX 48-port 10Gbps SFP+ ports switch
- NetApp AFF8020 high-availability storage platform
  - All Flash FAS
  - Complete software bundle: CIFS, FC, iSCSI, NFS, NetApp SnapManager® Suite, SnapVault®, Premium Bundle/Flash Bundle, SnapRestore®, SnapMirror®, FlexClone®

About NetApp

Leading organizations worldwide count on NetApp for software, systems and services to manage and store their data. Customers value our teamwork, expertise and passion for helping them succeed now and into the future.

www.netapp.com

Insight

Work smarter

At Insight, we'll help you solve challenges and improve performance with intelligent technology solutions.

Learn more