OpenStack Architecture Design

Dan Radez | Sr. Software Engineer, RED HAT
OpenStack Architecture Design

- Logical Architecture
- Basic Architecture
- Scaled Architecture
- Highly Available / Load Balanced
Logical Architecture
Logical OpenStack Architecture

- Control
- Compute
- Network
OpenStack Architecture Design

Basic Architecture
Basic OpenStack Architecture

- Control
- Compute
- Network
Basic OpenStack Architecture

Control / Network

- API
- Horizon
- Networking
- Database
- Messaging

Compute

- Hypervisor
- Compute Service
- Network Agent
Basic OpenStack Architecture

- **Control**
  - API
  - Horizon
  - Database
  - Messaging

- **Network**
  - Networking

- **Compute**
  - Hypervisor
  - Compute Service
  - Network Agent
OpenStack Architecture Design

Scaled Architecture
Scaled OpenStack Architecture

Control
- API
- Horizon
- Database
- Messaging

Network
- Networking

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- Hypervisor
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Scaled OpenStack Architecture

Control
- API
- Horizon
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Compute

Compute

Compute

Compute

Compute

Compute

Compute

Compute

Compute

Compute
Packstack

Deployment options
- Interactively
- Answer file
- Quick Start
- All-in-one

Features
- Single-host install
- Multi-host install
- RHOS, RDO, EPEL

http://openstack.redhat.com
Scaled OpenStack Architecture

**Control**
- API
- Horizon
- Database

**Network**
- Networking

**Compute**
- Hypervisor
- Compute Service
- Network Agent

Compute

Compute

Compute

Compute

Compute

Compute

Compute

Compute
Scaled OpenStack Architecture

- Keystone
- Nova
- Glance
- Cinder
- Swift Proxy
- Database
- Messaging
- Control
- Horizon
Scaled OpenStack Architecture

- Keystone
- Glance
- Nova
- Swift Proxy
- Database
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- Horizon
- Cinder
Scaled OpenStack Architecture

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Scaled OpenStack Architecture

- Database
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- Glance
- Swift Proxy
- Swift
- Messaging
- Horizon
- Nova
- Cinder
- Network
- Compute
OpenStack Architecture Design

High Availability
Load Balancing
High Availability / Load Balancing

Pacemaker
- HAPerxy
- Database
- Messaging
- Floating IPs
- Shared DB Storage
- Nova consoleauth

HAPerxy
- API Services
High Availability / Load Balancing

- HAProxy
- Database
- Messaging
- Floating IP
- Shared DB Storage
- Nova consoleauth
High Availability / Load Balancing

- HAProxy
- Floating IP1
- Consoleauth
- Floating IP4

- Database
- Floating IP2
- DB Storage

- Messaging
- Floating IP3

- Keystone
- Glance
- Swift Proxy

- Horizon
- Nova
- Cinder
OpenStack Architecture Design

- Logical Architecture
- Basic Architecture
- Scaled Architecture
- Highly Available / Load Balanced
Resources

- RDO: openstack.redhat.com
- OpenStack.org
- TryStack.org
- Puppetlabs.com
- Djangoproject.com
- http://radez.fedorapeople.org/RHForum_slides2.tar.gz