Abstract

The first part of this abstract is an introduction to the OpenStack framework:

how and why you’ll want to use it. OpenStack components are decomposed,

and relationships to underlying resources (compute, storage, network, and so

on) are explained. You’ll deploy OpenStack on a single node using the DevStack

deployment tool. Along the way, this part will help you start thinking about how

OpenStack could be used in your environment and develop your interest in the

framework enough to gain a deeper understanding of how things work under

the covers.

Introduction

*Open stack is...*

Let’s expand on the definition of OpenStack as a framework for managing, defining,

and utilizing cloud resources. The official OpenStack website (www.openstack.org)

describes the framework as “open source software for creating private and public

clouds.” It goes on to say, “OpenStack Software delivers a massively scalable cloud

operating system.” If you have experience in server virtualization, you may quickly, yet

incorrectly, conclude that OpenStack is just another way to provide virtual machines.

Although this is a service enabled by the OpenStack framework, it’s by no means

OpenStack’s definitive function.

Figure 1.2 shows several of the resource components that OpenStack coordinates

to create public and private clouds. As the figure illustrates, OpenStack doesn’t

replace these resource providers; it simply manages them, through control points

built into the framework.

An experienced systems administrator might take the description of OpenStack as

a “cloud operating system” with great skepticism. It’s not like administrators run

around to hundreds of servers with a boot disk, and load OpenStack on bare metal,

like a traditional operating system. Nevertheless, through its management of

resources, OpenStack shares operating systems characteristics, but in the context of

cloud computing.

With an OpenStack cloud you can

Harness the resources of physical and virtual servers, networks, and storage systems, Efficiently manage clouds of resources through tenants, quotas, and user roles and provide a common interface to control resources regardless of the underlying vendor subsystem.

Components

Compute components :

API Server (nova-api), Message Queue (rabbit mq server), Compute Workers (nova-compute), Network Controller (nova-network), Volume Worker (nova-volume), Scheduler (nova-scheduler), Image service (glance)

Dashboard there was User Interface (Horizon)

Service Object Storage there was Storage Infrastructure (swift)

Security and Users there was Identify service (keystone) and Database (mysql)

Conclusions

OpenStack is Opensource software for creating private and public clouds. OpenStack was founded by Rackspace. The first building by Rackspace Hosting and NASA. Openstack is global software community of developers. Used by corporations, service providers, researches and data centres.

References

V.K Cody Bumgardner, Jay Pipes-OpenStack in Action Manning (2016)