Technology Primer: OpenStack

★★★★⯪ **4.6/5** **"This course enabled me to grasp a very high level understanding of a complex topic with no prior exposure."**

Cloud computing is transforming telecom service provider networks and OpenStack is the open source Infrastructure as a Service (IaaS) solution for building and managing cloud infrastructure. This course provides a conceptual understanding of the benefits, capabilities, architecture as well as the high-level operation of the OpenStack. We explain the functionality provided by each of the key services such as Keystone, Nova, Glance, Neutron, Cinder, and Swift as well as Heat orchestration. Finally, we will discuss OpenStack orchestration and telemetry services and how it integrates with NFV and SDN.

Intended Audience

This course is designed for professionals in the industry who need to develop a high-level understanding of OpenStack.

Objectives

After completing this course, the student will be able to:

- Define the role of OpenStack as a cloud infrastructure manager
- Identify key services of OpenStack and describe their role
- Step through the operation of OpenStack services in managing cloud resources
- Explain how OpenStack integrates with NFV and SDN
- Identify the benefits and challenges of OpenStack

Prerequisites

- Technology Primer: Cloud and Virtualization (Instructor Led)
- Technology Primer: NFV (Instructor Led)

Required Equipment

- None

Course Outline

1. **Introduction to OpenStack**
   1.1 Physical to Virtualized network
   1.2 NFV reference architecture
   1.3 OpenStack as a cloud manager
   1.4 OpenStack in context of NFV and SDN

2. **OpenStack Framework**
   2.1 Brief history and OpenStack releases
   2.2 OpenStack services
   2.3 Multi-tenancy
   2.4 Role-based authentication
   2.5 Cloud segregation techniques

3. **OpenStack Operations**
   3.1 Roles of services like Keystone, Nova, Neutron

4. **Additional Services of OpenStack**
   4.1 Life cycle management via Heat orchestration
   4.2 Storage services
   4.3 Telemetry service

5. **Putting it-all-together**
   5.1 Features and limitations of OpenStack
   5.2 Integration with NFV and SDN

Award Solutions