SCHOOL OF INFORMATION SCIENCES

TERM PROJECT SYNOPSIS

Reg. No	Name	Branch	Email-id	Phone Number
171041005	Anish N Shetty	Virtualization	anishshetty@live.com	8867935196
171041009	Preethi S R	Virtualization	preethi.rudradevaramatt@gmail.com	8050308980

Network Orchestration and Management

INTRODUCTION

The work of a traditional application developer these days has become very flexible. In most cases, the details of the underlying hardware is irrelevant to the developer, since the OS performs the necessary abstraction. However, the same can't be said about Network Engineers. Many of the functionalities are vendor proprietary and hardware oriented even in these days. This has resulted in minimal progress in the Networking field as opposed to other related IT fields over the past decade. OpenFlow is a communication protocol that aims at providing a layer of abstraction to Network Engineers, to make their job easier.

OBJECTIVE

The aim of our project is to make use of the newer trends in the Networking field, wherein the complexity of network infrastructure is not the major focus for a network engineer. And thereby setting up a platform for orchestration and management of the network infrastructure in an easier way.

SCOPE

The project will make use of an SDN controller such as OpenDayLight. The communication between the SDN controller, and the Network infrastructure will be done using the OpenFlow protocol. An application would be built over the SDN controller using high level language such as Python. The application would have various functionalities that would help in an efficient management of the network.

USECASE

- Modify the data flow in a network as per need.
- Modify ACL, NAT configurations of multiple devices instantly using a single control device.
- Traffic Engineering.

TOOLS/SOFTWARE

OpenDayLight, OpenFlow, MiniNet, Python 2.7, RestAPI

HARDWARE

64-bit Processor, 4 GB RAM, 50 GB HDD

REFERENCES

[1].Nick McKeown, Tom Anderson, Hari Balakrishnan, Guru Parulkar, Larry Peterson , Jennifer Rexford , Scott Shenker , Jonathan Turner, "OpenFlow: Enabling Innovation in Campus Network", 2008 http://archive.openflow.org/documents/openflow-wp-latest.pdf

[2].Okung-Dike Ntofon, Mayur P. Channegowda, Nikolaos Efstathiou, Mehdi Rashidi Fard, Reza Nejabati, David K. Hunter, Dimitra Simeonidou , "Experimental demonstration of OpenFlow-enabled media ecosystem architecture for high-end applications over metro and core networks , 2012 http://ieeexplore.ieee.org/document/6706144/