

# OpenFlow and P2P Integrated Testing, Project: OpenLab

Christos Tranoris and Spyros Denazis

University of Patras, Greece

tranoris@ece.upatras.gr, sdena@upatras.gr

**Abstract.** Facilities and resources are offered by testbed providers for creating richer and broader experimentation scenarios for future internet research. Federation among resource providers has emerged as a concept of enabling such rich experimentation scenarios. This demo presents the work in the context of OpenLab project by enabling with OpenLab tools Openflow experimentation

**Keywords:** Future Internet Research, Experimentation, federation, openflow.

## 1 Introduction

Figure 1 displays the current OpenFlow deployment in UoP. Currently 3 XEN servers have been deployed where each one is capable of hosting a number of virtual machines. On each machine Openvswitch is installed, replacing linux networking. This virtual switch is configured with two virtual bridges each one connected to a network interface of the host. There are 2 networks: i) One public Network for accessing each host (and eventually each vswitch) over internet. This is used also by experimenters for accessing machines for an experiment. ii) A data network for VM data traffic. This network is used to send traffic to and from an external VM on another host. When a VM is requested, networking XEN scripts configure this VM to have 2 virtual interfaces. Each one is attached to virtual bridges created on the openvswitch.

Figure 2 displays how we enabled the testbed for experimentation. We used technologies by the previous Panlab project.

Some Characteristics of the testbed are :

- Access Switches via Public IPs
- Install user software in VMs
- Experiment with user's own Openflow controllers
- Access testbed via elastic public IP
- SFA enabled to integrate with other resources (i.e. PlanetLab)

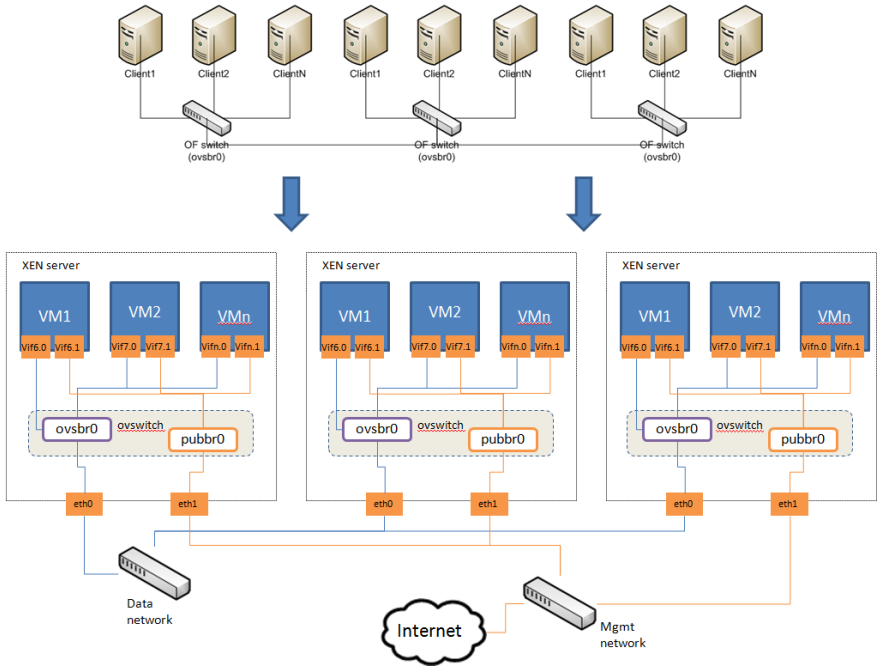


Fig. 1. The UoP openflow testbed

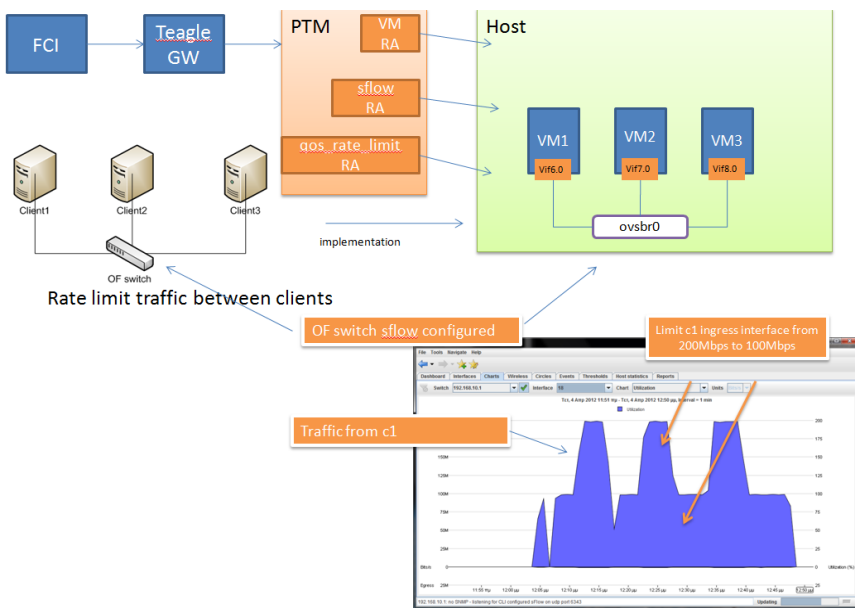


Fig. 2. Enabling the testbed for experimentation