

GÉANT & OCF

i2CAT-DANA

Albert Vico-Oton, Ph. D.

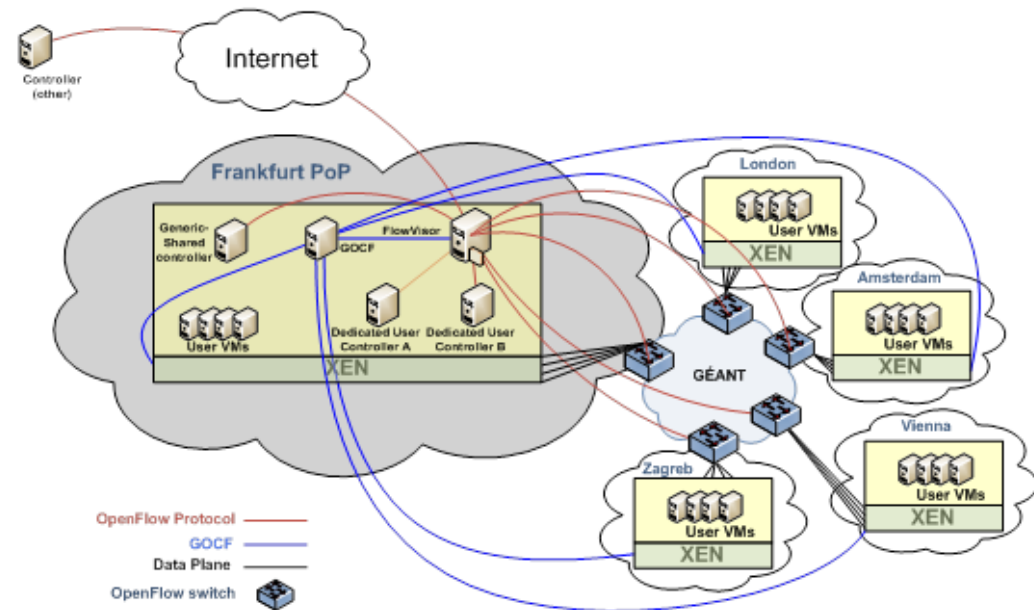
- Participating in G3+ project
 - OCF related activities:
 - Join Research Activity 2 Task 1
 - *OCF enhancements.*
 - *SDN-OF related subjects.*
 - Service Activity 2 Task 2 – Task3
 - *TaaS: Test bed as a Service.*
 - *Task2: OF resources will be integrated in the TaaS tool.*
 - *Task3: Giving advice to the Test bed admins of the OCF island deployed in GÉANT.*

- Investigation of possibilities of support of higher versions of OpenFlow.
- Investigation of possibilities for deployment of hardware switches.
- Upgrading the OCF version to the last and most stable.
- Investigate AuthZ mechanism beyond the current LDAP with Microsoft Active Directory.
- Studying a system of queues for avoiding congestion of the resources, the idea is to enable packet queues on the FlowVisor in order to support better isolation between traffic from different experiments.
- Introducing other software switches rather than OVS:
 - CPqD Software switch: <http://cpqd.github.io/ofsoftswitch13/> (version 1.3)
 - Ericsson Traffic Lab: <https://github.com/TrafficLab/of11softswitch> (version 1.1)
 - Flow forwarding: <http://flowforwarding.org/>

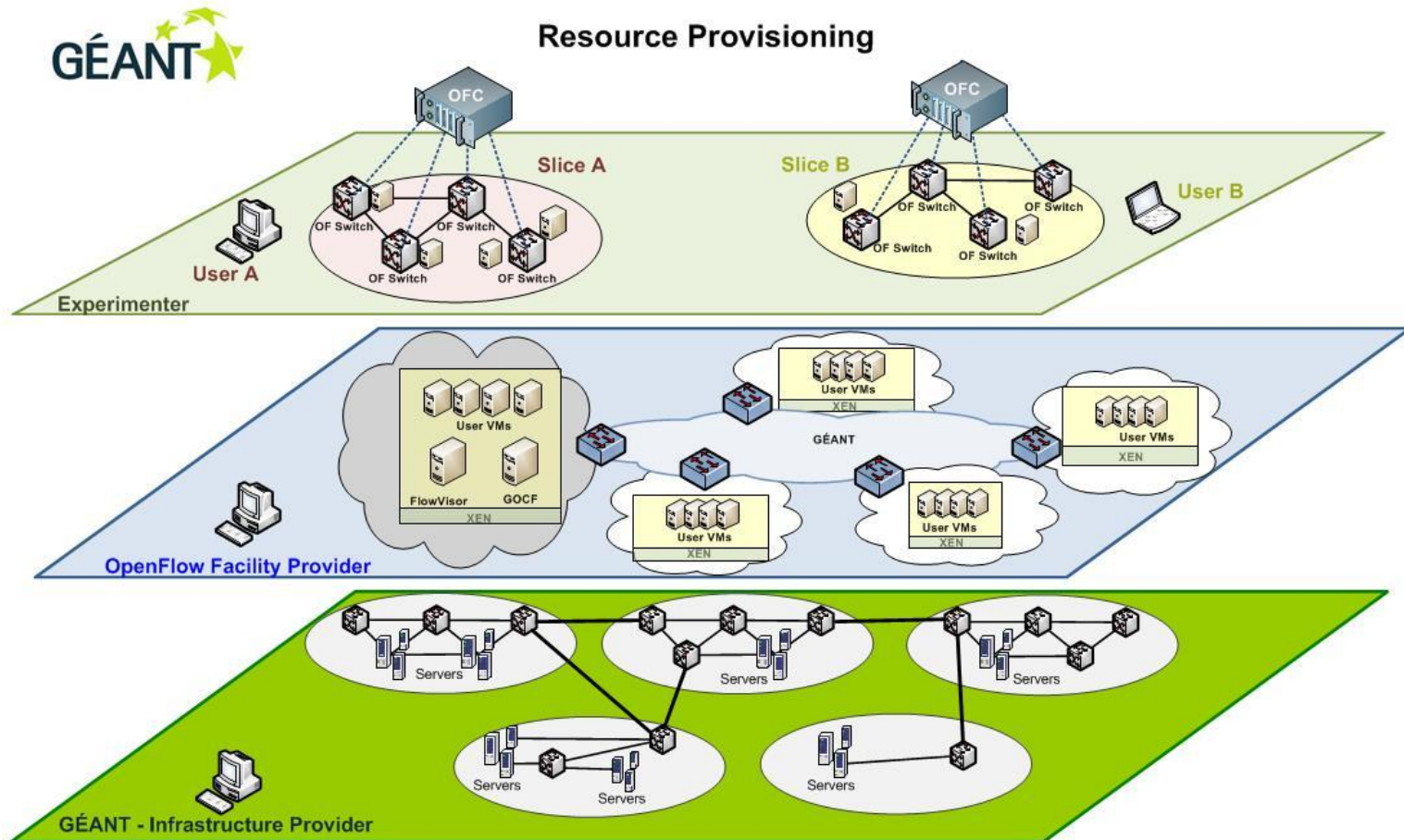
OCF Deployment @ GÉANT III



- Computing resources are offered as **Virtual Machines** (VMs) utilizing a **XEN** hypervisor environment
- Network resources are provisioned through software-based **Open vSwitches4**.
- It operates two (2) general-purpose servers on each of the five (5) GÉANT Points of Presence (PoPs) in **Vienna, Amsterdam, Frankfurt, Zagreb** and **London**. Each server at a PoP :
 - Either serves as the host of the software-based OpenFlow switch (Open vSwitch) on top of a native Linux Debian distribution, or
 - Utilizes a XEN hypervisor for the instantiation of multiple VMs allocable to user slices.
- Everything is orchestrated by **OCFv0.3**



OCF Deployment @ GÉANT III/II



Resource Provisioning
 Full mesh isolated topology
 Internet connectivity
 Bare-metal servers



Technologies
 L2 ptp MPLS VPN
 GÉANT IP network
 Servers as Hypervisors & OF switches

Resource Provisioning
 OpenFlow control plane exposure
 OpenFlow controlled Ethernet data plane
 Virtual Machines



Technologies
 FlowVisor
 Open vSwitch
 XEN servers

GÉANT OCF Deployment



Connect | Communicate | Collaborate

www.geant.net

www.twitter.com/GEANTnews | www.facebook.com/GEANTnetwork | www.youtube.com/GEANTtv

