# ON.LAB

## **OpenVirteX** A Network Hypervisor

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## Why Network Virtualization?



- Enables multi-tenancy
- Allows security and isolation of user traffic
- Decouples the physical network from the virtual network

## Why build OpenVirteX?

- Enable the virtualization of OpenFlow networks
- Bring SDN to virtual networks
- Provide virtual networks with:
  - Separation of data and control
  - Logically centralized control plane
  - Programmability through OpenFlow



#### **OpenVirteX Architecture** Bump in wire

- Building on lessons from FlowVisor
- Infrastructure- and tenant-facing OpenFlow interfaces
- Idea to empower users to control and define behaviour of their virtual network
- Bump in control channel, thus OVX must be as efficient as possible



### **OpenVirteX Architecture**



## **Current Status**

- Experimental implementation (Java) complete
  - Add/Delete/Start/Stop vSDN elements dynamically
  - Virtual switch/link resiliency through backup routes
  - UI, topology embedder
- To-Do's (future iterations):
  - Virtual network snapshotting and migration
  - HA and Scalability
- Upcoming release Aiming for Q1 '14
  - Open source, contributions welcome!

#### Demos

- On Internet 2 with ONOS
- Functions and features
- Showcase, Booths A10 and A12







## Thanks!

Find out more at: http://tools.onlab.us/ovx.html