OpenVirteX

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CREATE-NET

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Network Virtualization

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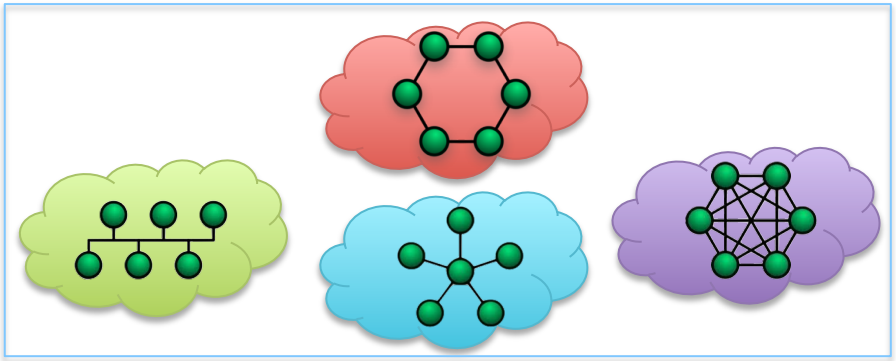
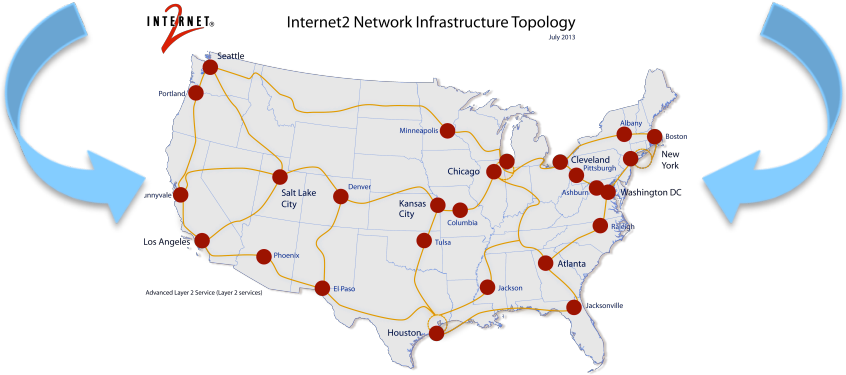
Killer App for SDN





- Enables **multi-tenancy**
- **Decouples** the physical network from the virtual network
- Allows **security** and **isolation** of the users' traffic
- Sadly, solutions are not widely available yet.

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Existing Network Virtualization solutions

Closed Source

- Some use overlay based approaches
- And/or use network core only for simple forwarding
- Use SDN to deliver NV but take SDN away from tenant

Open Source

- Flowspace slicing approaches
- Header space shared amongst tenants
- Configuration complexity increases exponentially with number of tenants

OpenVirteX overcomes these limitations.

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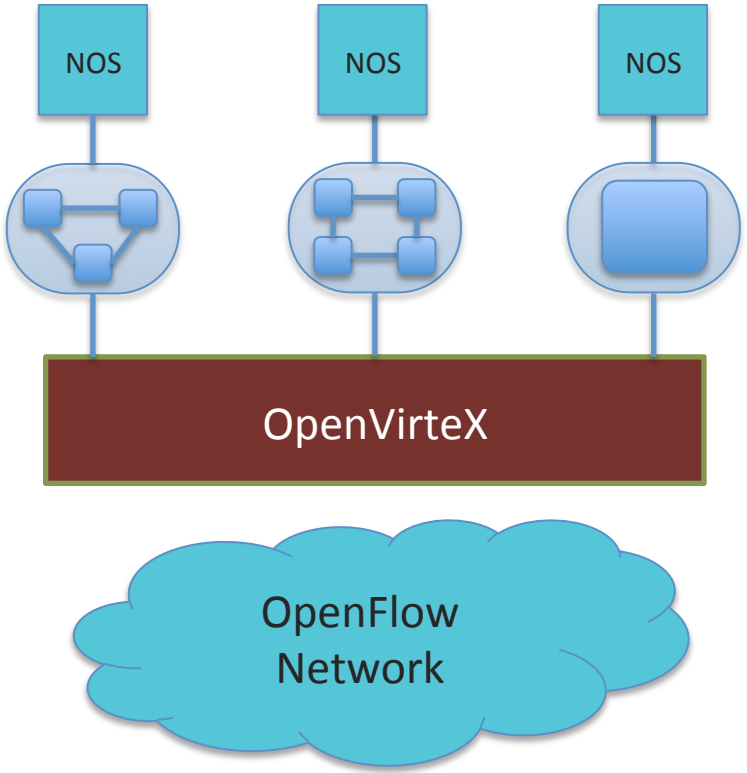
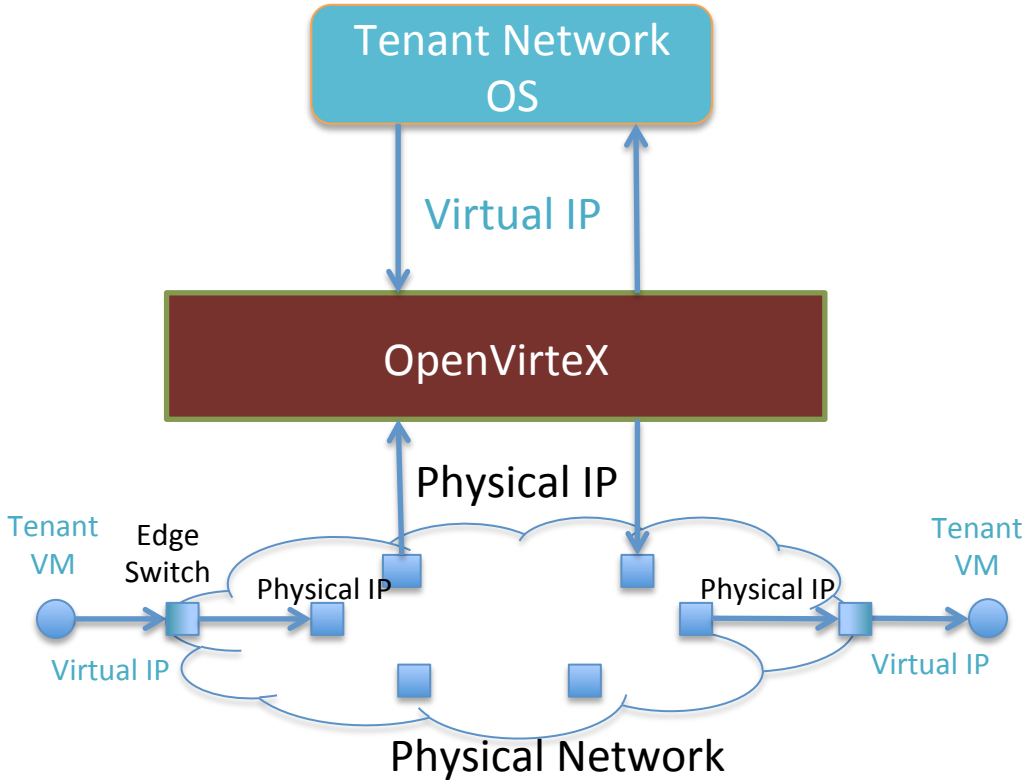
What is OpenVirteX?

- OpenVirteX enables the **virtualization** of **OpenFlow networks**
  - Address Space Virtualization
  - Topology Virtualization
  - Programmability through OpenFlow
- Provides an OpenStack neutron plugin
- Open Source software



Address Virtualization

- Multiple vnets can use the same address space
- The rewriting inserts a tag to enable OVX to identify the packets owner
- Rewriting process is completely transparent to NOS and end hosts



Topology Virtualization

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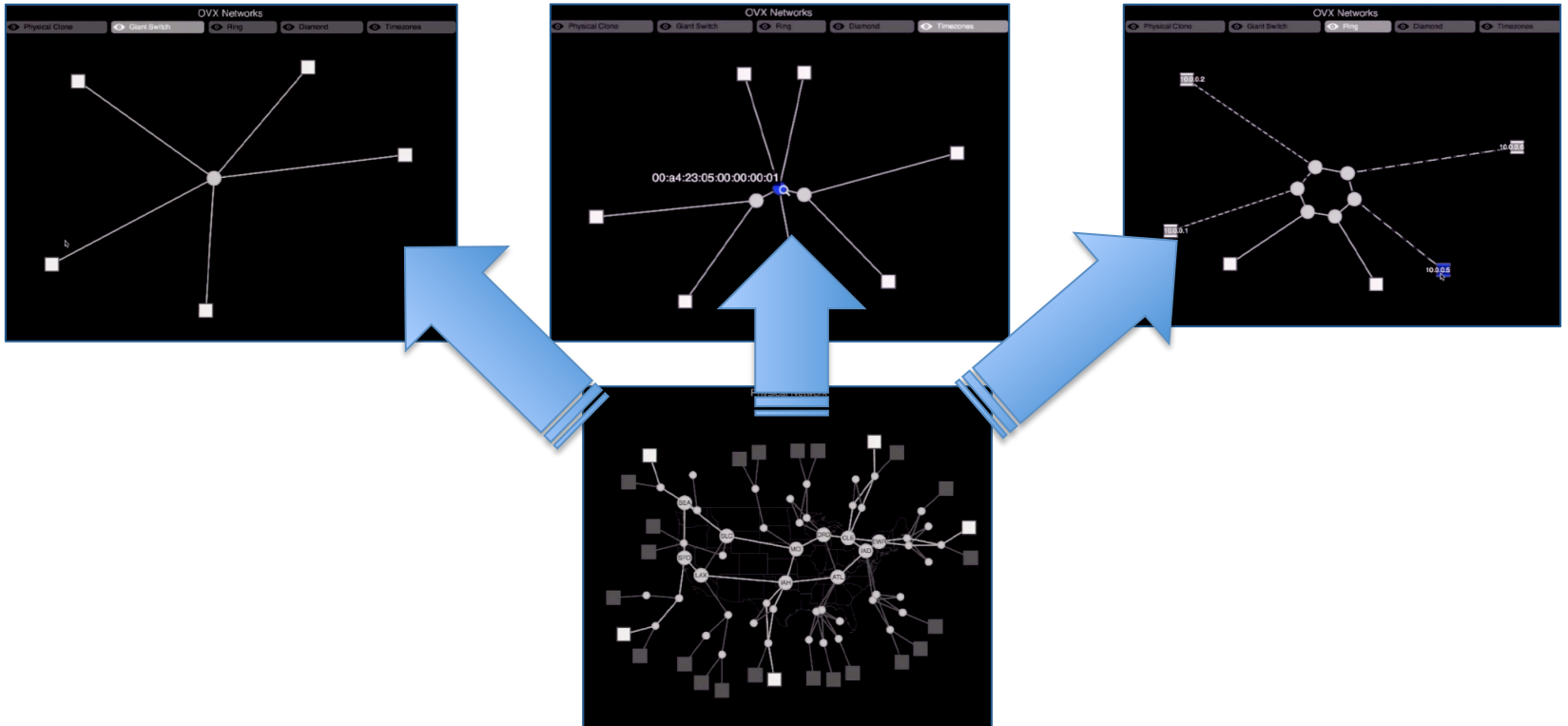
Each virtual network is controlled by its own Network Operating System



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Current Status

- OpenVirteX-0.0.1-prealpha released:
  - Full header space virtualization
  - Arbitrary topology support
  - Virtual Networks programmable by OpenFlow
  - Supports any OpenFlow controller
  - Start/Stop/Delete/Create/Modify Virtual Networks
  - Excellent documentation
  - Tutorial available at www.openvirtex.org
- Future possible features:
  - Virtual network snapshotting and migration
  - Virtual Network pausing
  - Physical switch exploding

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Find out more at:
http://www.OpenVirteX.org

Thanks! Questions?