INTRODUCTION TO OPEN VIRTUAL NETWORK

DAWID DEJA

SENIOR DEVOPS, OVH

AGENDA

1. What is OVN & Why use it
2. OVN Architecture
3. Demo

WHAT IS OVN

WHAT IS OVN

According to documentation „is a system to support **virtual network abstraction**. OVN complements the existing capabilities of OVS to add native support for virtual network abstractions, such as **virtual L2** and **L3** overlays and security groups.”

Uses OpenFlow to achive this goal.

OPENVSWITCH VS OVN

- Virtual port
- Virtual bridge
- OpenFlow Rules
- Virtual interface*

- Logical port
- Logical bridge
- Logical router
- Logical gateway

VIRTUAL VS LOGICAL

VIRTUAL

- Resides on a given host
- Depends on a physical infrastructure
- Decentralized

LOGICAL

- Can reside on multiple hosts and can switch hosts
- Abstracts physical infrastructure
- Centralized

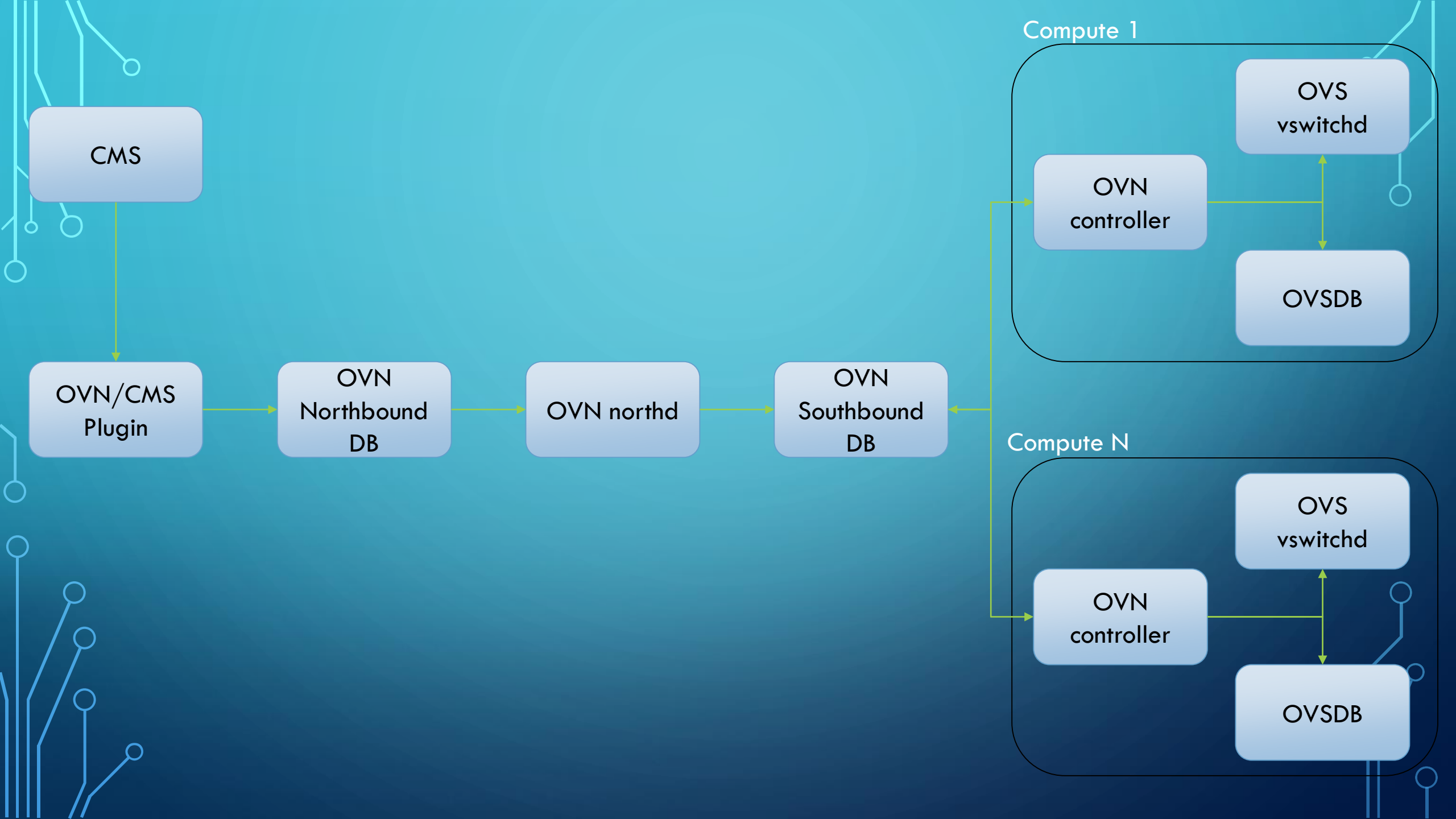
OVS AND OVN ARE DOING SIMILAR THING*

JUST FOR SAKE OF THIS PRESENTATION*

OTHER OVN FEATURES

- L3 Routers
- Security groups
- Gateways
- DHCP

HOW OVN WORKS

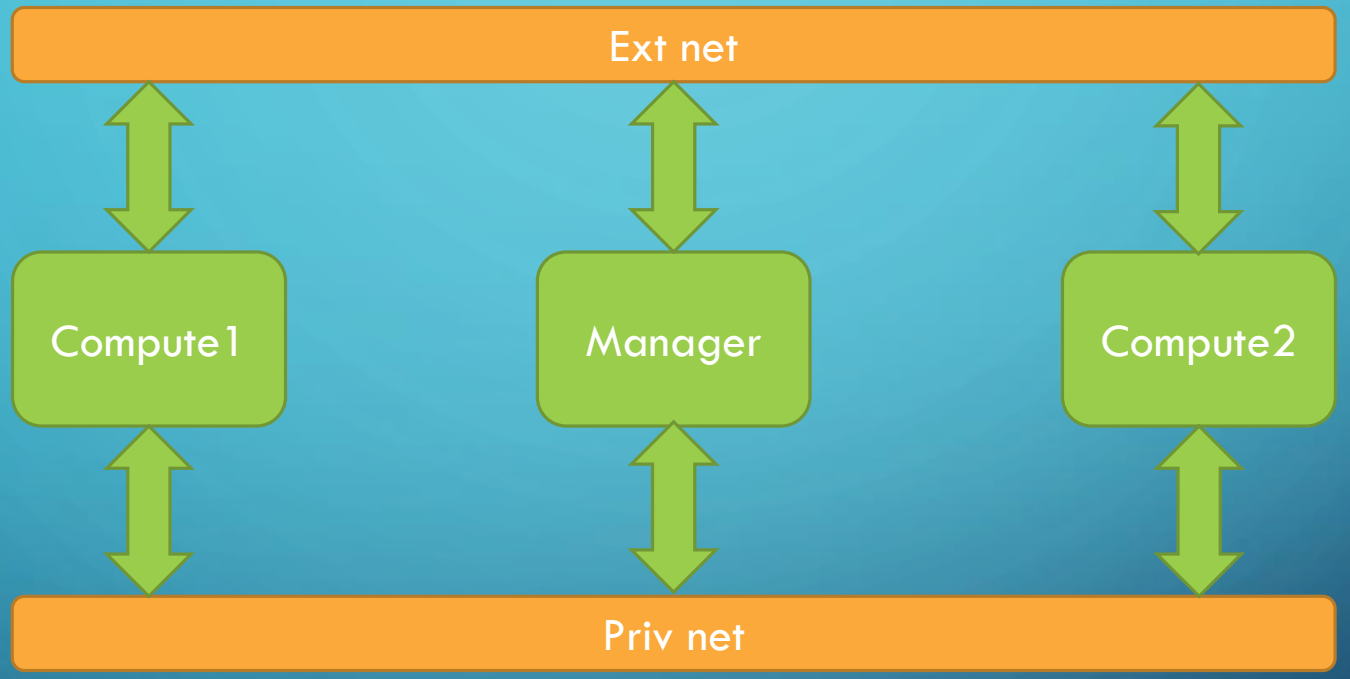

CMS
OVN/CMS Plugin
OVN Northbound DB
OVN northd
OVN Southbound DB
Compute 1
OVS vswitchd
OVN controller
OVSDB
Compute N
OVS vswitchd
OVN controller
OVSDB

TUNNELS

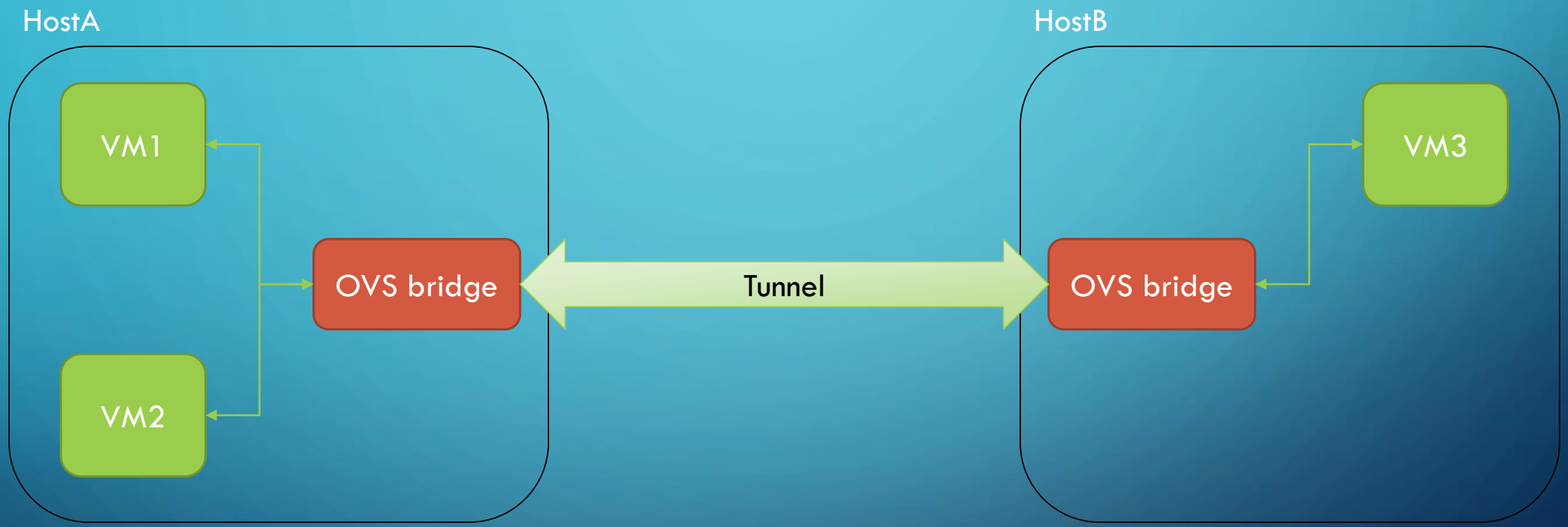
```
Bridge br-int
    Port "ovn-6289e4-0"
        Interface "ovn-6289e4-0"
            type: geneve
            options: {csum="true", key=flow, remote_ip="192.168.0.221"}
    Port "ovn-ae838c-0"
        Interface "ovn-ae838c-0"
            type: geneve
            options: {csum="true", key=flow, remote_ip="192.168.0.227"}
    Port br-int
        Interface br-int
            type: internal
ovs_version: "2.9.2"
```

DEMO TIME!

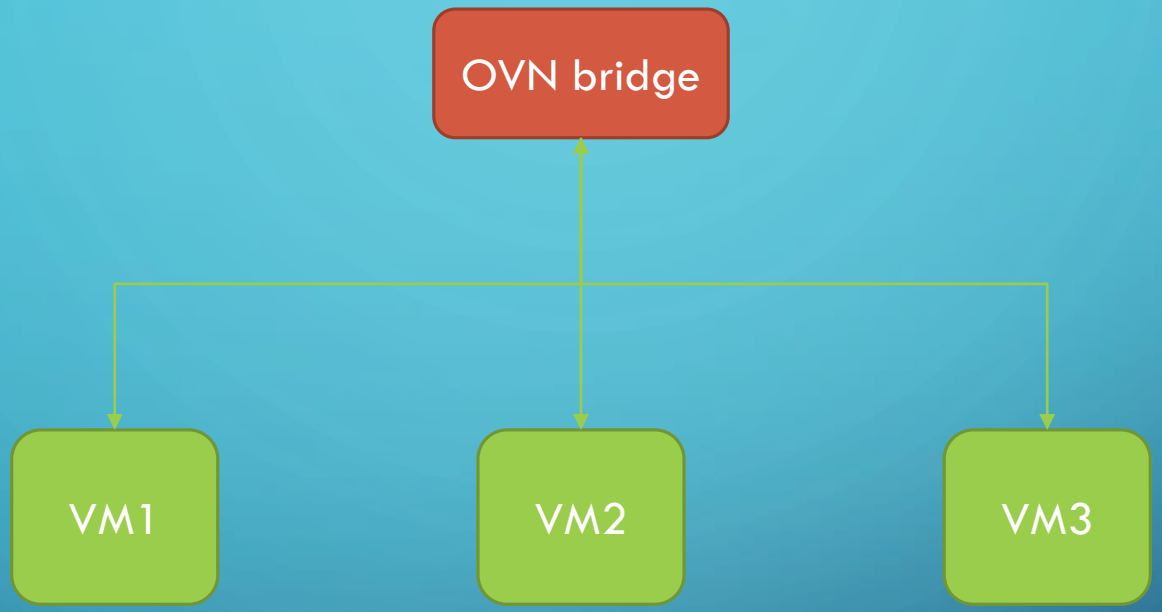
HARDWARE SETUP



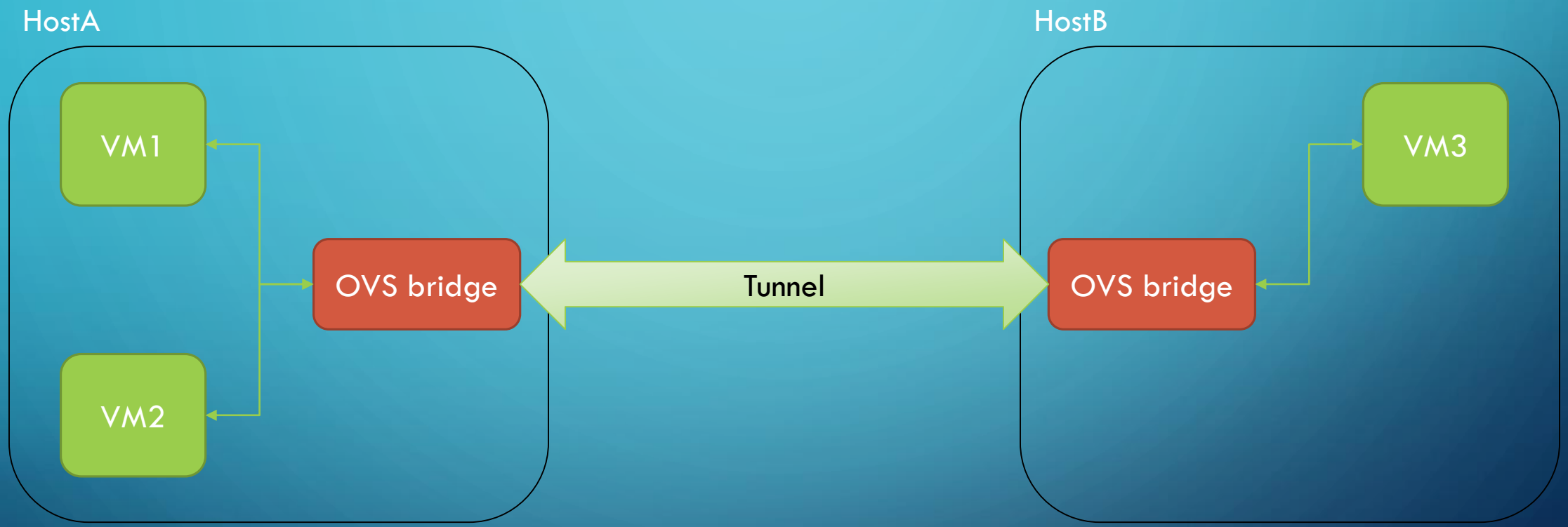
L2 NETWORKING



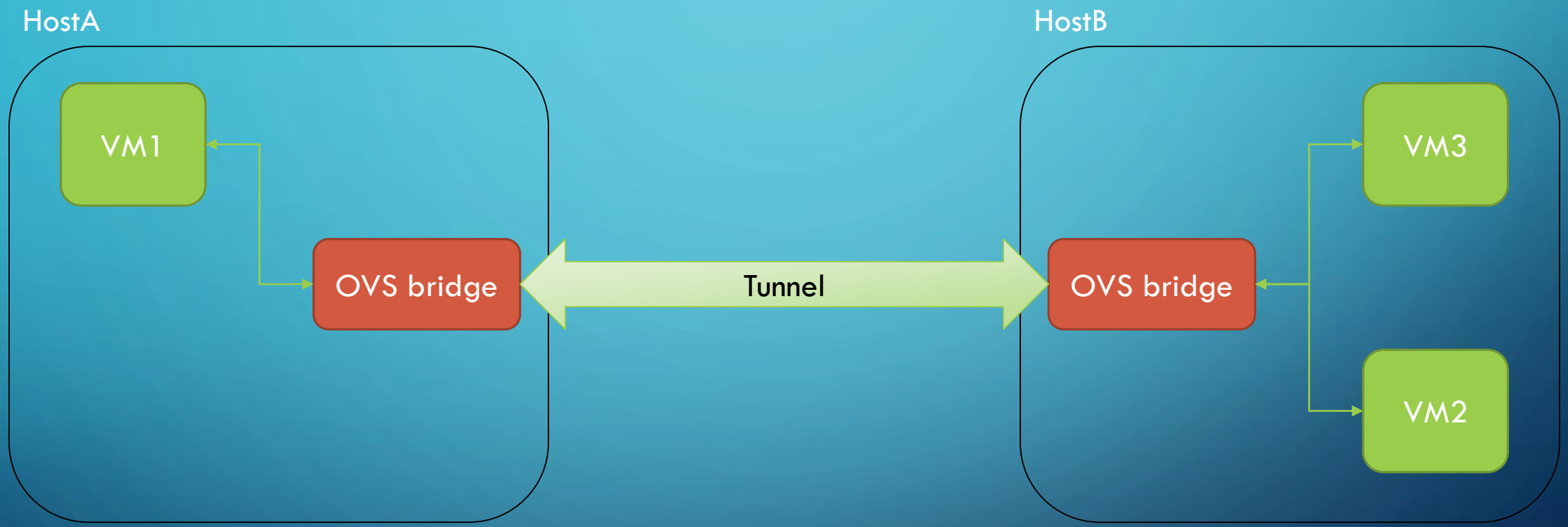
L2 NETWORKING LOGICAL



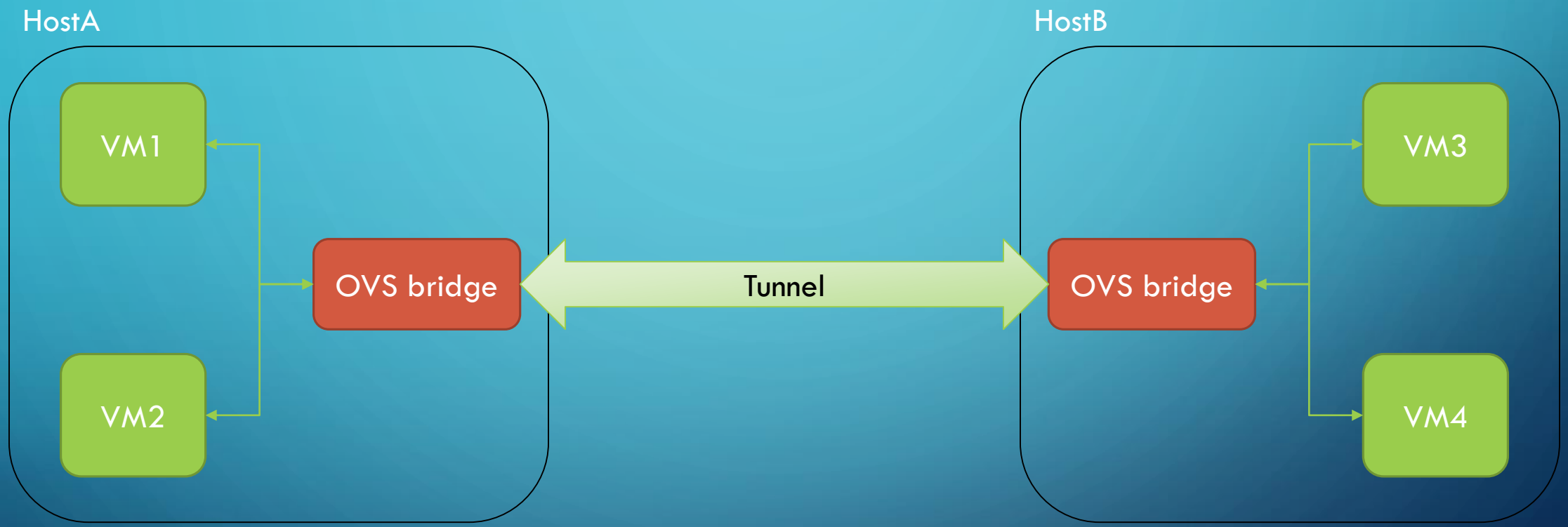
MIGRATION



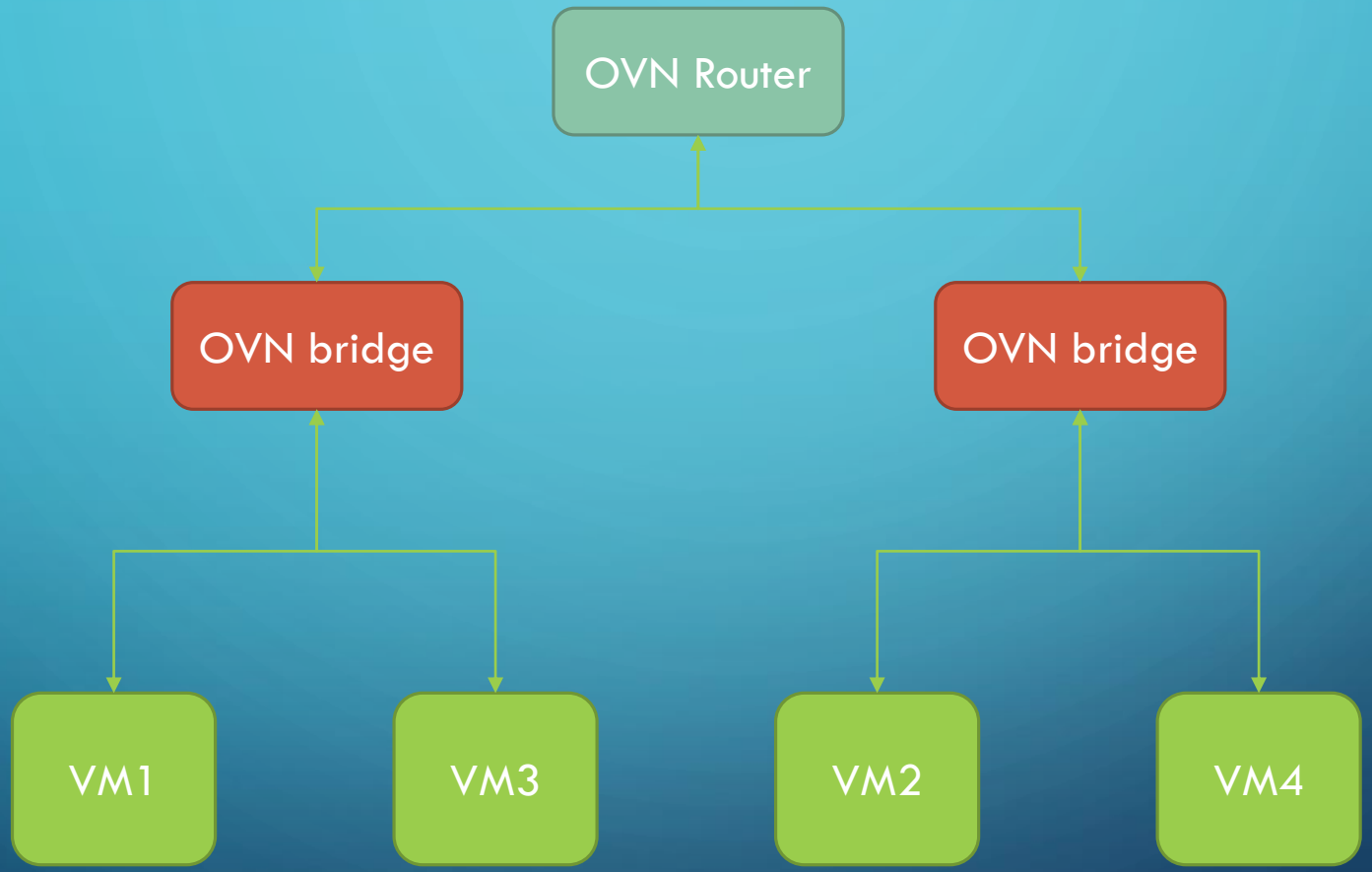
MIGRATION



L3 NETWORKING



L3 NETWORKING LOGICAL



OPENSTACK INTEGRATION

Networking-ovn

- Communication between OVN and Neutron
- Pins logical stuff with virtual

CHALLENGES

- No A/A HA
- Immature

Q&A

https://github.com/dawiddeja/openinfra_days_pl2019

RESOURCES

- http://www.openvswitch.org/support/dist-docs/ovn-architecture.7.html
- https://qyx.me/2018/07/10/run-and-test-ovn/
- https://weiti.org/ovn/2018/01/02/ovn-br-int-or-other-name
- http://blog.spinhirne.com/2016/09/a-primer-on-ovn.html
- http://blog.spinhirne.com/2016/09/an-introduction-to-ovn-routing.html
- https://www.openvswitch.org/releases/NEWS-2.11.0.txt