NSX Multi Hypervisor Technical Overview

Elver Sena Sosa

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NSX MH Technical Intro - Agenda

- **What is NSX-MH?**

- **What is the sweet spot for NSX-MH?**

- **NSX Architecture**

- **Key differences (NSX-v 6.0 / NSX-MH 4.0)**

- **High-Level Work Flow**

- **Demo with OpenStack CMP integration**

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What is NSX-MH?

That's NSX for Multi Hypervisors.
Plain – Simple.

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What is the sweet spot for NSX-MH?

- **Companies building a large Cloud**
  - Cloud means "compute/storage/network" automated
  - In other words they have a CMS!

- **Usually that means Service Provider**

  (or large Enterprise / highly tech skilled Enterprise)

- **Best sweet spots:**
  1. Customer implementing OpenStack

     Why? NSX-MH offers a Network + Security plugin for OpenStack
  2. Customer implementing their own CMS

     They have high skilled people and can easily add NSX-MH to their workflow

  Note: Usually they decide to go with KVM. The reason is they don't care much about the "bells and whistles". They care about scale + agility (and price).
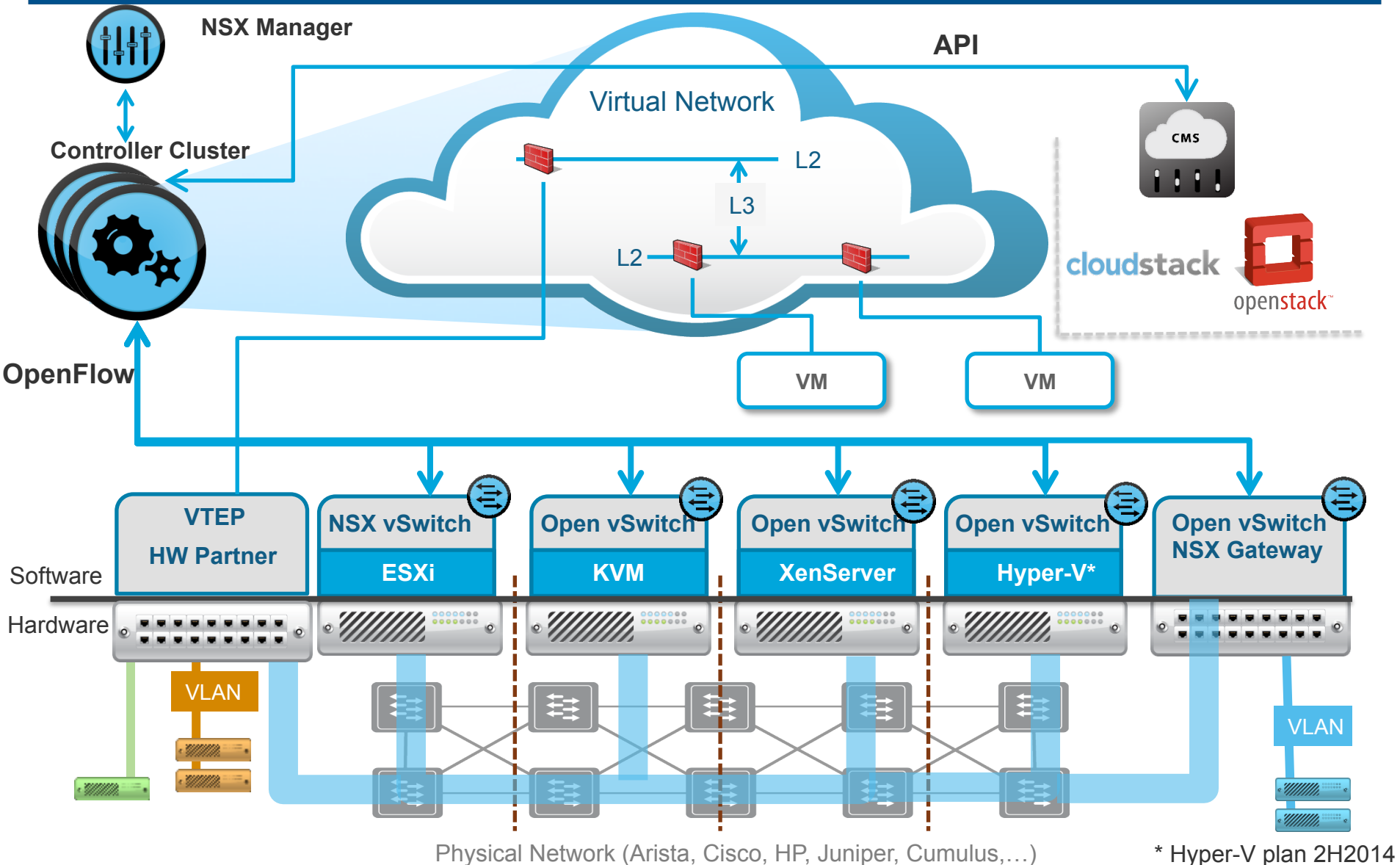
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NSX Architecture

NSX Manager

Controller Cluster

API

Virtual Network

L2

L3

L2

OpenFlow

CMS

cloudstack

openstack™

VM

VM

| VTEP HW Partner | NSX vSwitch ESXi | Open vSwitch KVM | Open vSwitch XenServer | Open vSwitch Hyper-V* | Open vSwitch NSX Gateway |

Software

Hardware

VLAN

VLAN

Physical Network (Arista, Cisco, HP, Juniper, Cumulus,…)

* Hyper-V plan 2H2014

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Key differences (NSX-v 6.0 / NSX-MH 4.0)

- **Architecture differences:**

Hypervisor supported:	ESXi only	ESXi+KVM+Xen(+Hyper-V)
vSwitch:	vDS + VIB	OVS (NSX-v for ESXi)
vSwitch info:	Remote mac@/IP@ info asked when needed	5 tuple flows pre-pushed to OVS
NSX-Manager:	Store logical networks info + "program vSwitch"	"simply" a mgt element
Supported encapsulations:	VXLAN	STT + GRE + IPSEC-STT + IPSEC-GRE + VXLAN

- **Network services**

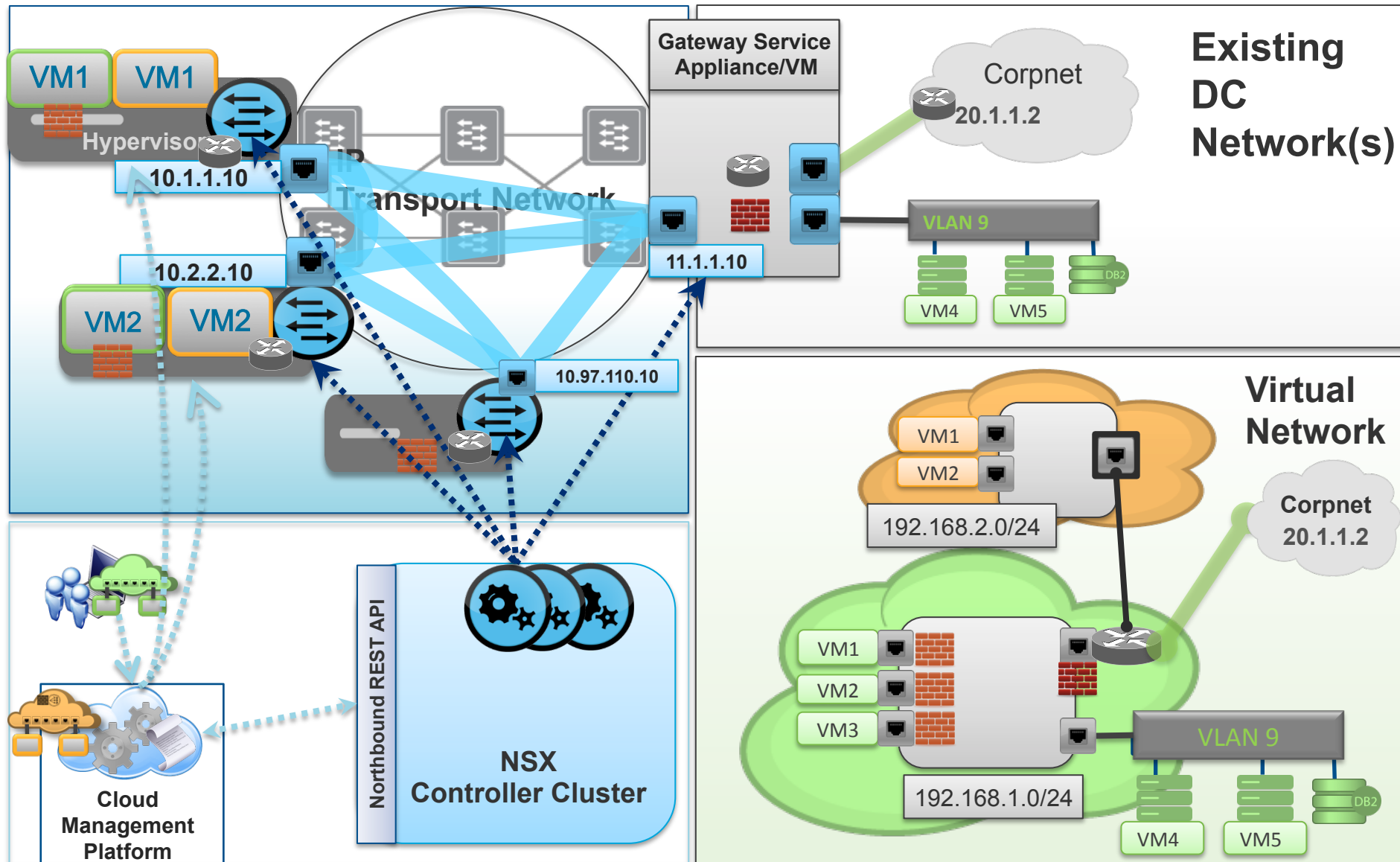| **Both:**	**Only NSX-V:**	**Only-NSX-MH:**
L2, L2 log-phy Centralized + Dist L3 QoS	Dynamic routing Stateful dist L2-L4 FW LB VPN Service Composer 3rd party integration (but ToR)	Stateless dist L2-L4 FW ToR integration

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High-Level Work Flow

| Data Plane | Control Plane |

Existing DC Network(s)

Gateway Service Appliance/VM

Corpnet 20.1.1.2

VLAN 9

VM1 VM1

Hypervisor

10.1.1.10

Transport Network

11.1.1.10

VM4 VM5 DB2

10.2.2.10

VM2 VM2

10.97.110.10

Virtual Network

VM1 VM2

192.168.2.0/24

Corpnet 20.1.1.2

Northbound REST API

NSX Controller Cluster

Cloud Management Platform

VM1 VM2 VM3

192.168.1.0/24

VLAN 9

VM4 VM5 DB2

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Questions

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