

8360/8400 NSX-V Integration

SPEAKERS:

- Daryl Wan
- Ankit Kumar Sinha
- Satheesh Kumar Murugan

aruba

a Hewlett Packard
Enterprise company



Agenda: 8360/8400 VMware NSX-V Integration

- 1 Overview
- 2 Use Cases
- 3 Details/Caveats
- 4 Configuration and Best Practices
- 5 Troubleshooting
- 6 Resources
- 7 Demo



Overview

aruba

a Hewlett Packard
Enterprise company

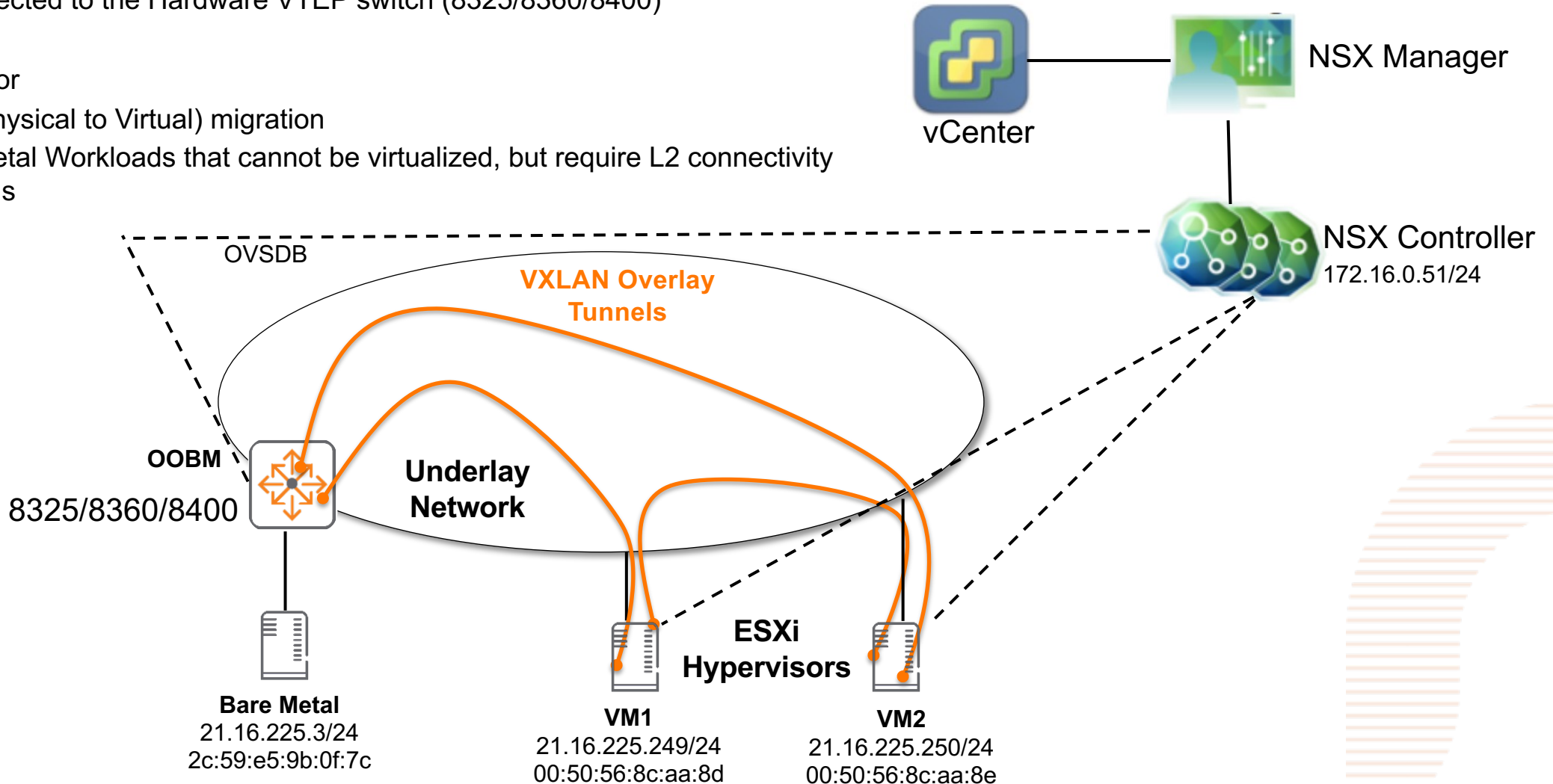
VMware NSX-V/8325/8360/8400 Integration Overview

- 8325/NSX-V integration was certified in 10.4 with NSX-V 6.4.4
- New in 10.6
 - 8360/8400 NSX-V integration
 - Certification will start after 10.6 GA
- This session will focus on describing the main differences between 8325 and 8360/8400 with regards to NSX-V integration and include demos

Use Cases

VMware NSX-V/8325/8360/8400 Integration

- Used in DC environments with NSX-V, VMs and bare metal servers
- Provides L2 network connectivity between VMs (on ESXi hosts) and Bare Metal Servers connected to the Hardware VTEP switch (8325/8360/8400)
- Mainly used for
 - P2V (Physical to Virtual) migration
 - Bare Metal Workloads that cannot be virtualized, but require L2 connectivity with VMs



Details

aruba

a Hewlett Packard
Enterprise company

VMware NSX-V/8325/8360/8400 Integration Details

- Scalability:
 - 4093 VNIs on 8400
 - 2032 VNIs on 8325/8360
 - 2048 hosts per VNI
 - 32k hosts per device (HW-VTEP)
 - 10 replicators
- Feature is dependent on VxLAN, MAC and BFD features
- Feature interacts with VxLAN, MAC and BFD
 - VxLAN interaction is required for Tunnel creation
 - BFD interaction is required to create BFD sessions to replicator nodes
 - MAC interaction is required to export local MACs to NSX controller and import remote MACs via NSX controller
- NSX-V integration feature is configurable via REST API
- Relevant information can be fetched via REST API from different OVSDB tables listed as,
 - HSC, Virtual_Network_ID, Tunnel_Endpoint, MAC, BFD_Session

VMware NSX-V/8325/8360/8400 Integration Caveats

- NSX-V integration feature is mutually exclusive with EVPN
- Only standalone switches can be NSX-V integrated
- 8400 chassis dual MM HA failover is supported with NSX-V integration in non hitless mode
- VSX deployment support for NSX-V integration is planned for future
- VLAN-VNI mapping is required to be configured manually on the switch
- OVSDB control plane connectivity between NSX controller and switch has to utilize OOB “int mgmt”

Configuration

aruba

a Hewlett Packard
Enterprise company

VMware NSX-V/8325/8360/8400 Integration Configs

- Switch configuration with HSC (NSX-V integration feature)

```
HWGW(config)# HWGW(config)# interface mgmt
HWGW(config-if-mgmt)# no shutdown
HWGW(config-if-mgmt)# ip static 1.1.1.50/24
HWGW(config-if-mgmt)# default-gateway 1.1.1.1
```

```
HWGW(config)# hsc
HWGW(config-hsc)# manager ip 1.1.10.51
HWGW(config-hsc)# manager port 6640
HWGW(config-hsc)# bfd enable
HWGW(config-hsc)# enable
```

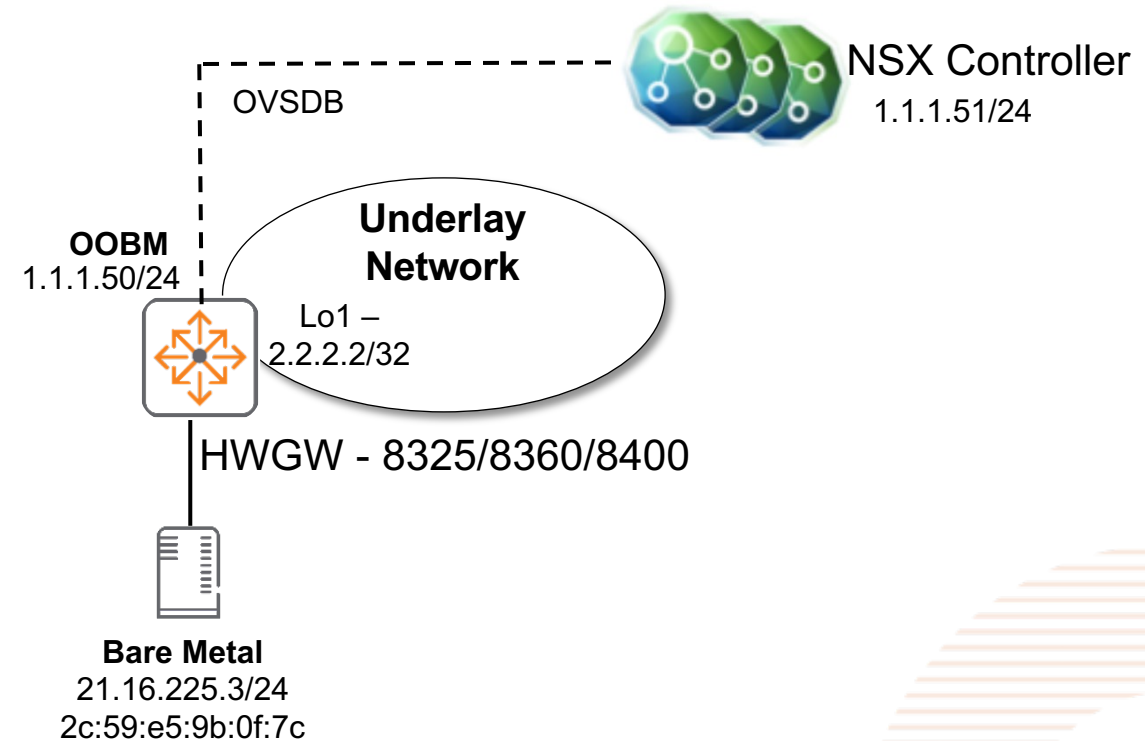
'manager ip' is NSX primary controller IP address

'manager port' is port on which NSX is listening for OVSDB connection

'bfd enable' to enable BFD for service replicator nodes

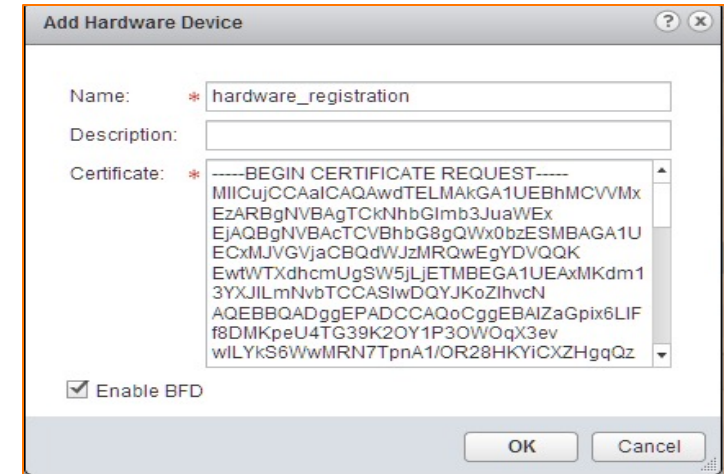
VXLAN configuration

```
HWGW(config)# interface loopback 1
HWGW(config-loopback-if)# ip address 2.2.2.2/32
HWGW(config)# interface vxlan 1
HWGW(config-vxlan-if)# ip address 2.2.2.2
HWGW(config-vxlan-if)# no shutdown
HWGW(config-vxlan-if)# vni 1000
HWGW(config-vni-1000)# vlan 10
```



VMware NSX-V/8325/8360/8400 Integration Configs

- NSX-V configuration
 - On switch do 'show crypto pki certificate local-cert pem' and copy the certification
 - Log on to vSphere client
 - Select Networking and Security > Service Definition
 - Click the Hardware Devices tab
 - Click the Add (+) icon to create the hardware gateway profile details. Click ok.
 - 'Enable BFD' check box is optional
- Validation
 - 'show hsc' will show 'Connection Status' as 'ACTIVE' and 'Connection State' as 'UP'
 - 'show interface vxlan vteps' will show the Tunnels with 'Status' as 'operational' for 'Origin' as 'hsc'
 - 'show bfd' will show BFD session are 'State' as 'up' with all replicator service nodes (RSNs) for 'Application' as 'hsc'
 - Nothing has been changed for configuration steps from previous release



Best Practices

aruba

a Hewlett Packard
Enterprise company

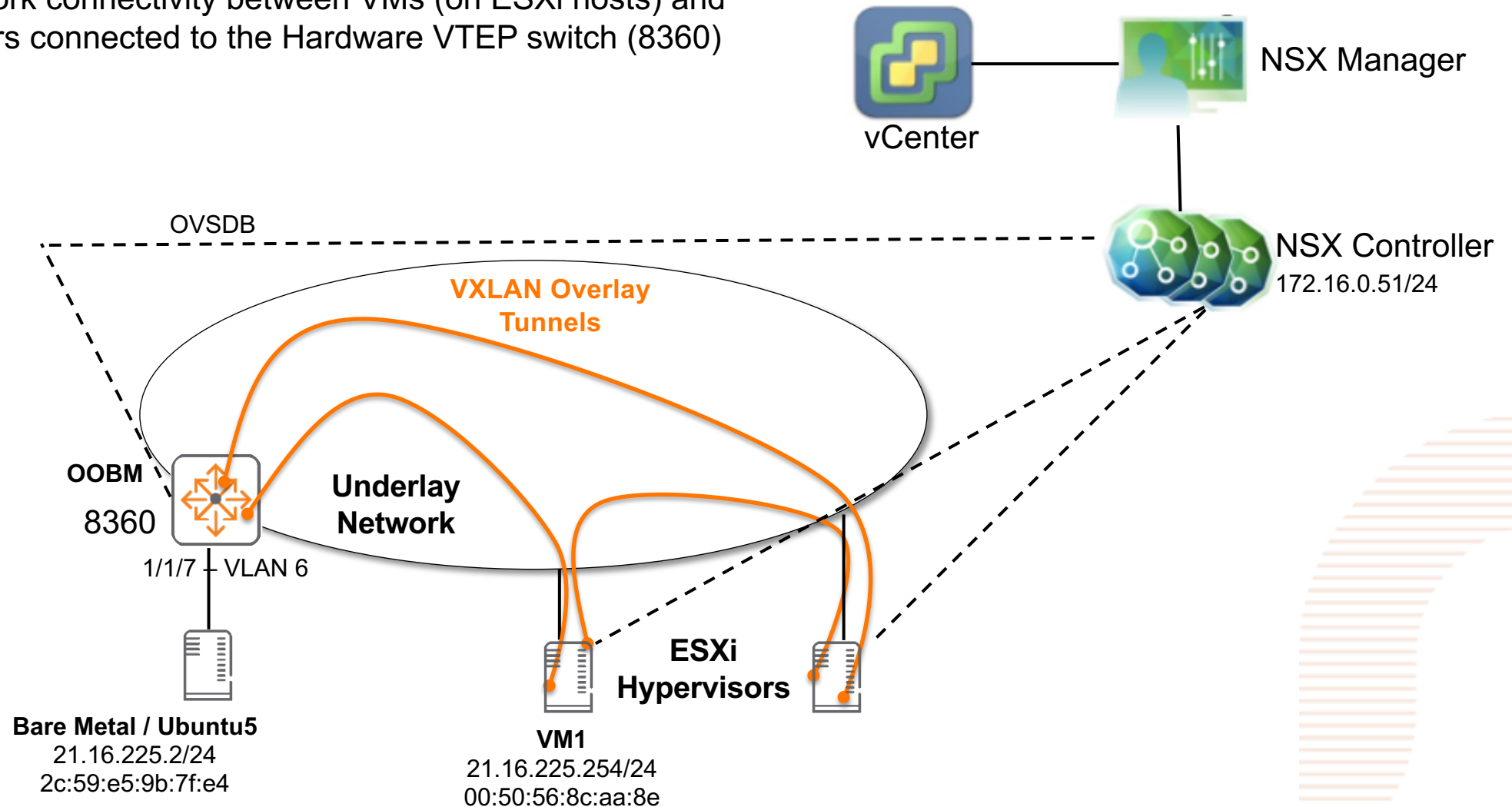
VMware NSX-V/8325/8360/8400 Integration Best Practices

- Only use for L2 workloads when physical workload to virtual workload communication is needed
- It is recommended to follow standard steps given in NSX-V guide
- It is recommended to use default port for OVSDB at NSX-V side
- Configure VXLAN before configuring HSC
- VNI and VLAN must match on vSphere Client and Switch. It has to be configured on switch first.
- Enable BFD under HSC context before connecting to vSphere Client if BFD operations are desired.
- Disable the feature first before changing the configuration (for HSC or VXLAN) via CLI or REST API
- Enable the feature once configuration changes are completed
- EVPN and HSC (NSX-V integration) are two different control plane learning features hence should not be mingled
- Following the above steps can help smooth deployment
- Since it is integration with external software, adding unnecessary configs can lead to issues in connection with NSX-V

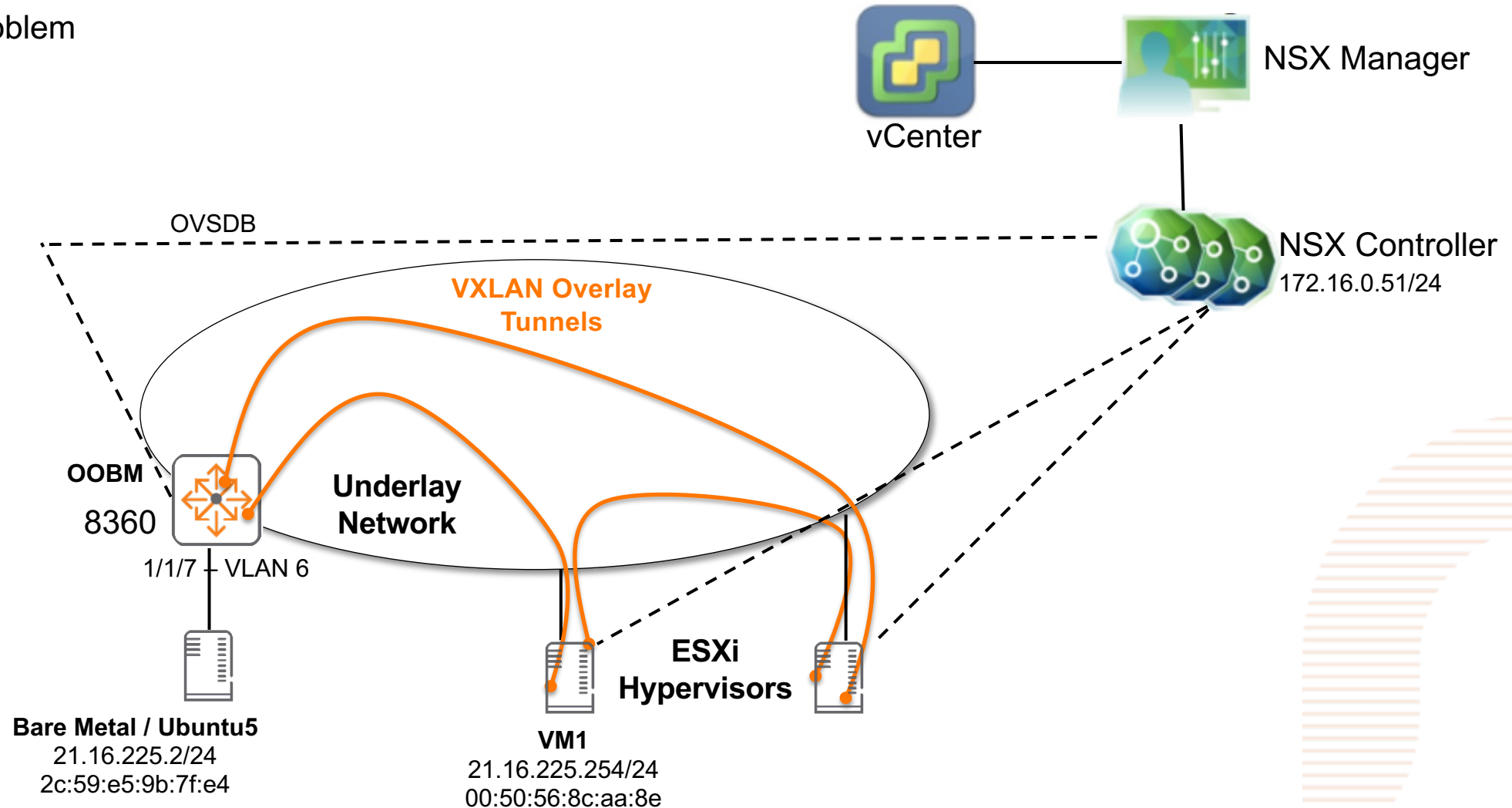
Demo



- Used in DC environments with NSX-V, VMs and bare metal servers
- Provides L2 network connectivity between VMs (on ESXi hosts) and Bare Metal Servers connected to the Hardware VTEP switch (8360)



- Traffic not forwarding scenario
- Walkthrough steps
 - To isolate problem



Thank you