

# Yang Data Model for VxLAN Protocol

draft-chen-nvo3-vxlan-yang-01.txt

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# Goals

- Define the VxLAN data model
- Help for product implementation for VxLAN

# VxLAN Mapping Type

- **VLAN-1:1** : VxLAN mapping type is VLAN, and each VxLAN is only mapping to one VLAN
- VLAN- n:1 : VxLAN mapping type is VLAN, and each VxLAN could be mapped to several VLANs
- L3-interface: VxLAN mapping type is layer 3 interface
- Mac: VxLAN mapping type is MAC address
- VLAN-l2-interface: VxLAN mapping type is vlan + Layer 2 interface

# VTEP Mode

- discard-inner-vlan mode: VxLAN only maps to one VLAN
  - The inner VLAN tag will be stripped when encapsulating the VxLAN frame
  - If VTEP receives the VxLAN frame with inner VLAN tag, it will discard the frame.
  - If the VTEP receives the VxLAN frame without VLAN tag, it will fill in the VLAN tag based on the VxLAN and VLAN mapping
- no-discard-inner-vlan mode : VxLAN maps to several VLANs
  - The inner VLAN tag will not be stripped when encapsulating the VxLAN frame in the VxLAN encapsulation side
  - If VTEP receives the VxLAN frame, it will strip the VxLAN header, and keep the VLAN frame

# Global Configuration

```
module: ietf-vxlan
  +--rw vxlan
    +--rw vxlan-instance* [vxlan-id]
      | +--rw vxlan-id          uint32
      | +--rw multicast-ip      inet:ipv4-address
      | +--rw (vxlan-map-types)?
      |   +--:(vxlan-map-vlan)
      |     | +--rw map-type-vlan?      enumeration
      |     | +--rw map-vlan* [vlan-id]
      |     |   +--rw vlan-id          uint16
      |     +--:(vxlan-map-mac)
      |       | +--rw map-type-mac?     empty
      |       | +--rw mac               yang:mac-address
      |     +--:(vxlan-map-l2interface)
      |       | +--rw map-type-l2interface?  empty
      |       | +--rw vlan-id            uint16
      |       | +--rw interface-name      if:interface-ref
      |     +--:(vxlan-map-l3interface)
      |       +--rw map-type-l3interface?  empty
      |       +--rw map-l3interface* [interface-name]
      |         +--rw interface-name      if:interface-ref
```

# Interface Configuration

```
+--rw interfaces
  +--rw interface* [name]
    +--rw name          if:interface-ref
    +--rw vtep-instances* [vtep-id]
      +--rw vtep-id      uint32
      +--rw vtep-name?   string
      +--rw source-interface? if:interface-ref
      +--rw vtep-mode?   enumeration
      +--rw bind-vxlan-id* [vxlan-id]
        +--rw vxlan-id  uint32
```

# Operational State Model

```

+--ro vxlan-state
  +--ro vxlan-instance
    | +--ro vxlan-id?          uint32
    | +--ro multicast-ip?     inet:ipv4-address
    | +--ro (vxlan-map-types)?
    |   +--:(vxlan-map-vlan)
    |     | +--ro map-type-vlan?  enumeration
    |     | +--ro map-vlan* [vlan-id]
    |     |   +--ro vlan-id  uint16
    |     +--:(vxlan-map-mac)
    |       | +--ro map-type-mac?  empty
    |       | +--ro mac?          yang:mac-address
    |       +--:(vxlan-map-l2interface)
    |         | +--ro map-type-l2interface?  empty
    |         | +--ro vlan-id?              uint16
    |         | +--ro interface-name?      if:interface-ref
    |         +--:(vxlan-map-l3interface)
    |           | +--ro map-type-l3interface?  empty
    |           | +--ro map-l3interface* [interface-name]
    |           | +--ro interface-name      if:interface-ref
    +--ro vtep-instance
      +--ro vtep-id?          uint32
      +--ro vtep-name?        string
      +--ro source-interface? if:interface-ref
      +--ro vtep-mode?        enumeration
      +--ro bind-vxlan-id* [vxlan-id]
        +--ro vxlan-id      uint32

```

# Pass the IETF yangvalidator.

Extracted 1 YANG modules

- [ietf-vxlan@2015-10-08.yang](#)

## ietf-vxlan@2015-10-08.yang

### Validation

No warnings or errors

### Output

```
module: ietf-vxlan
augment /rt:routing:
  +--rw vxlan
    +--rw vxlan-instance* [vxlan-id]
      | +--rw vxlan-id          uint32
      | +--rw multicast-ip     inet:ipv4-address
      | +--rw (vxlan-map-types)?
      | | +--:(vxlan-map-vlan)
      | | | +--rw map-type-vlan?      enumeration
      | | | | +--rw map-vlan* [vlan-id]
      | | | | | +--rw vlan-id      uint16
      | | | +--:(vxlan-map-mac)
      | | | | +--rw map-type-mac?     empty
      | | | | +--rw mac              yang:mac-address
      | | | +--:(vxlan-map-l2interface)
      | | | | +--rw map-type-l2interface?  empty
      | | | | +--rw vlan-id          uint16
      | | | | +--rw interface-name    if:interface-ref
      | | | +--:(vxlan-map-l3interface)
      | | | | +--rw map-type-l3interface?  empty
      | | | | +--rw map-l3interface* [interface-name]
      | | | | | +--rw interface-name    if:interface-ref
```



# Next Step

- Comments welcome
- Rich the document based on the discussion.

Thanks!