Base YANG Data Model for NVO3 Protocols

Draft-zhang-nvo3-yang-cfg-06.txt

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Motivation of the draft

• Related works of Network Virtualization Overlay
  • Data plane: VXLAN (RFC7348), NVGRE (RFC7637), GENEVE (RFC soon), VXLAN-GPE (in progress), ...
  • Control plane: RFC8365, draft-boutros-bess-evpn-geneve, ...
  • YANG: Not standardized yet

• Why a **base** NVO3 YANG?
  • Several encapsulations and VPN technologies exist, to avoid repetitive works and non-consistent approaches, a common and reusable YANG should be defined
  • A start point for incremental work to fit a specific technology: augment the base YANG when necessary

• References
  • NVO3 RFCs: Framework (RFC7365), Architecture (RFC8014)
  • Related RFCs and works in progress in IETF
NVE as an interface

- Previous version 05: NVE as a container
- Augmenting the IETF interface YANG

```
 augmentation /if/interfaces/if:interface:
   +-rw nvo3-nve
     +-rw nvo3-config
       +-rw source-vtep-ip?  inet:ipv4-address-no-zone
       +-rw source-vtep-ipv6? inet:ipv6-address-no-zone
       +-rw bypass-vtep-ip?  inet:ipv4-address-no-zone
       +-rw statistics
         +-rw statistic* [vni-id mode peer-ip direction]
           +-rw vni-id   uint32
           +-rw mode    vni-type
           +-rw peer-ip inet:ipv4-address-no-zone
           +-rw direction direction-type
           +-ro info
     +-rw nvo3-gateway
       +-rw nvo3-gateway
         +-rw vxlan-anycast-gateway?  boolean
```
Base NVO3 YANG mapped to the Architecture

Mapping the vni-instance to NVE interface

BGP control plane enabler per VNI basis

Used for DCI (RFC8365)

Multicast group per VNI basis

Multicast service node (RFC8293)
VNI mapped to L2VPN & L3VPN

  +--rw vni-lists
    +--rw vni* [vni-id]
      +--rw vni-id uint32

augment /ni:network-instances/ni:network-instance/ni:ni-type/l2vpn:l2vpn:
  +--rw vni-lists
    +--rw vni* [vni-id]
      +--rw vni-id uint32
      +--rw split-horizon-mode? vni-bind-type
      +--rw split-group? string

• Indicating which VNI is used for L2VPN(MAC_VRF), which VNI is used for L3VPN(IP_VRF)
• Previous version: indicated in the NVE container
• Now: augmenting the IETF L2VPN and L3VPN YANG
Next steps

• Comments are always welcome
• WG adoption?