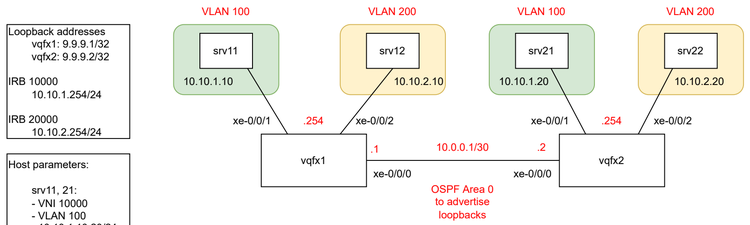
EVPN-VXLAN Lab with Juniper vQFX - L3VNI

Underlay eBGP



Underlay configuration snippet

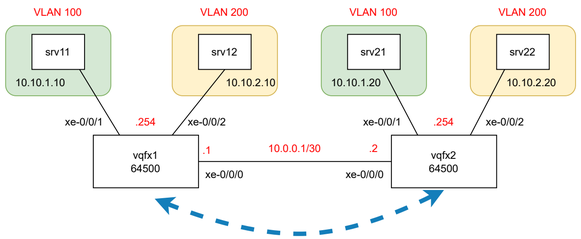
```
protocols {
    ospf {
        area 0.0.0.0 {
            interface lo0.0 {
                passive;
            }
            interface xe-0/0/0.0;
        }
    }
```

vagrant@vqfx1> show route protocol ospf

```
inet.0: 16 destinations, 16 routes (16 active, 0 holddown, 0 hidden)
+ = Active Route, - = Last Active, * = Both

9.9.9.2/32         *[OSPF/10] 00:14:13, metric 1
                    >  to 10.0.0.2 via xe-0/0/0.0
224.0.0.5/32       *[OSPF/10] 00:18:00, metric 1
                       MultiRecv
```

Overlay iBGP



vagrant@vqfx1> show bgp summary

```
Threading mode: BGP I/O
Groups: 1 Peers: 1 Down peers: 0
Table          Tot Paths  Act Paths Suppressed    History Damp State    Pending
bgp.evpn.0
                      14         14          0          0          0          0
Peer                     AS      InPkt     OutPkt    OutQ   Flaps Last Up/Dwn State|#Active/Received/Accepted/Damped...
9.9.9.2               64500         56         55       0       0       20:34 Establ
  __default_evpn__.evpn.0: 0/0/0/0
  bgp.evpn.0: 14/14/14/0
  default-switch.evpn.0: 14/14/14/0
```

vagrant@vqfx1> show evpn database

```
Instance: default-switch
VLAN  DomainId  MAC address        Active source                  Timestamp        IP address
     10000      00:01:94:00:01:01  05:00:00:fb:f4:00:00:27:10:00  Oct 26 16:34:03  10.10.1.254
     10000      00:01:95:00:01:01  05:00:00:fb:f4:00:00:27:10:00  Oct 26 16:35:51  10.10.1.254
     10000      02:05:86:71:2e:00  irb.10000                      Oct 26 16:34:04  10.10.1.251
     10000      02:05:86:71:c4:00  9.9.9.2                        Oct 26 16:35:51  10.10.1.252
     10000      08:00:27:e0:60:6f  xe-0/0/1.0                     Oct 26 16:56:11  10.10.1.10
     10000      08:00:27:ef:c3:a6  9.9.9.2                        Oct 26 16:56:12  10.10.1.20
     20000      00:01:94:00:01:02  05:00:00:fb:f4:00:00:4e:20:00  Oct 26 16:34:03  10.10.2.254
     20000      00:01:95:00:01:02  05:00:00:fb:f4:00:00:4e:20:00  Oct 26 16:35:51  10.10.2.254
     20000      02:05:86:71:2e:00  irb.20000                      Oct 26 16:34:04  10.10.2.251
     20000      02:05:86:71:c4:00  9.9.9.2                        Oct 26 16:35:51  10.10.2.252
     20000      08:00:27:72:1a:84  xe-0/0/2.0                     Oct 26 16:33:05
     20000      08:00:27:b2:0a:40  9.9.9.2                        Oct 26 16:56:21  10
```

vagrant@vqfx1> show ethernet-switching table

```
MAC flags (S - static MAC, D - dynamic MAC, L - locally learned, P - Persistent static
        SE - statistics enabled, NM - non configured MAC, R - remote PE MAC, O - ovsdb MAC)


Ethernet switching table : 6 entries, 6 learned
Routing instance : default-switch
   Vlan              MAC               MAC     Logical              Active
   name              address           flags   interface            source
   servers100        02:05:86:71:c4:00 D       vtep.32769           9.9.9.2
   servers100        08:00:27:e0:60:6f D       xe-0/0/1.0
   servers100        08:00:27:ef:c3:a6 D       vtep.32769           9.9.9.2
   servers200        02:05:86:71:c4:00 D       vtep.32769           9.9.9.2
   servers200        08:00:27:72:1a:84 D       xe-0/0/2.0
   servers200        08:00:27:b2:0a:40 D       vtep.32769           9.9.9.2
```

Overlay configuration snippet

```
    evpn {
        encapsulation vxlan;
        multicast-mode ingress-replication;
        default-gateway no-gateway-community;
        extended-vni-list all;
    }
    bgp {
        group evpn_overlay {
            type internal;
            local-address 9.9.9.1;
            family evpn {
                signaling;
            }
            neighbor 9.9.9.2;
```

VTEP, RD, VNI-VLAN mapping

```
switch-options {
    vtep-source-interface lo0.0;
    route-distinguisher 9991:1;
    vrf-target {
        target:64500:9991;
        auto;
    }
}
vlans {
    default {
        vlan-id 1;
    }
    servers100 {
        vlan-id 100;
        l3-interface irb.10000;
        vxlan {
            vni 10000;
        }
    }
    servers200 {
        vlan-id 200;
        l3-interface irb.20000;
        vxlan {
            vni 20000;
        }
    }
}
```

IRB configuration

```
    irb {
        unit 10000 {
            proxy-macip-advertisement;
            virtual-gateway-accept-data;
            description irb_vxlan_10000;
            family inet {
                address 10.10.1.251/24 {
                    virtual-gateway-address 10.10.1.254;
                }
            }
            virtual-gateway-v4-mac 00:01:94:00:01:01;
        }
        unit 20000 {
            proxy-macip-advertisement;
            virtual-gateway-accept-data;
            description irb_vxlan_20000;
            family inet {
                address 10.10.2.251/24 {
                    virtual-gateway-address 10.10.2.254;
                }
            }
            virtual-gateway-v4-mac 00:01:94:00:01:02;
        }
    }
    lo0 {
        description "vxlan source";
        unit 0 {
            family inet {
                address 9.9.9.1/32;
            }
        }
    }
```