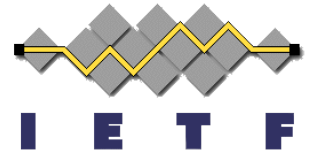


# nvo3 WG

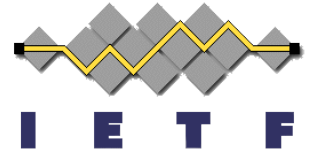
## IETF-88

# DHCP Options for Configuring Multicast Addresses in VXLAN

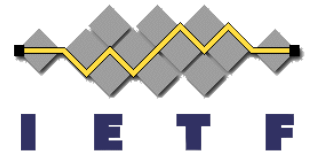


**draft-sarikaya-dhc-vxlan-multicast-02**  
**Behcet Sarikaya**  
**Frank Xia**  
**November 2013**

# Problem 1: multi-tenancy requires independent address spaces



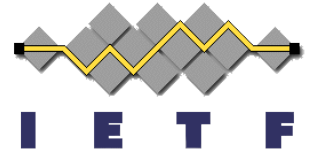
- VXLAN provides overlaid virtual networks for each tenant.
- Normally, a VM configures its IP address through DHCPv4/DHCPv6
- It is possible for a VM to be configured the same IPv4/IPv6 address as another VM belonging to a different tenant.



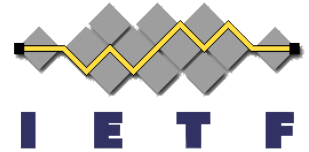
## Problem 2: Rendezvous Point (RP) address is needed for a VTEP to send IPv4/IPv6 multicast packets

- VXLAN uses IPv4/IPv6 multicast mechanism to convey Ethernet MAC broadcast/multicast traffic.
- When a VTEP intercepts an ARP with broadcast destination MAC address, the VTEP needs to send the packet to a router or switch acting as IP multicast Rendezvous Point
- The VTEP needs to know the **IP address of Rendezvous Point**

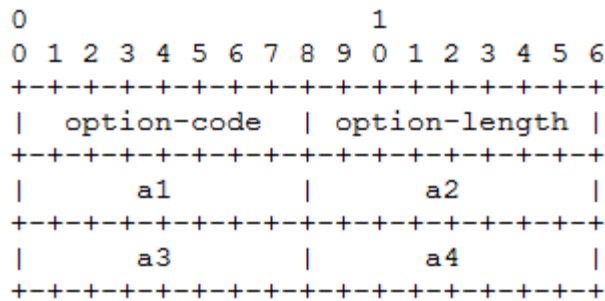
# Problem 3: A VTEP needs to join some IPv4/IPv6 multicast groups



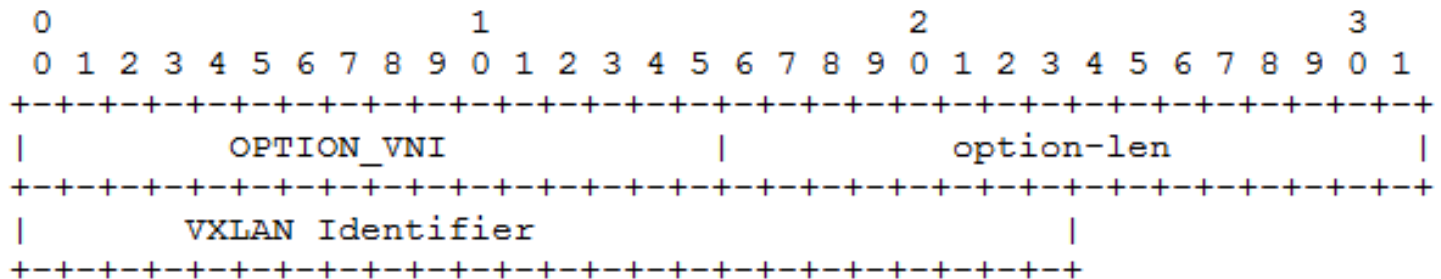
- In order to receive IPv4/IPv6 multicast packets, a VTEP needs to join a multicast group for each VNI (VXLAN Network Identifier)
- A VTEP needs to know **IP multicast address for each VNI**



# Solution 1: VNI DHCP/DHCPv6 option for multi-tenancy address acquisition

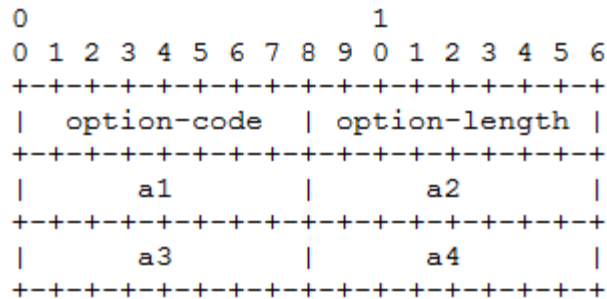


VNI DHCP Option format

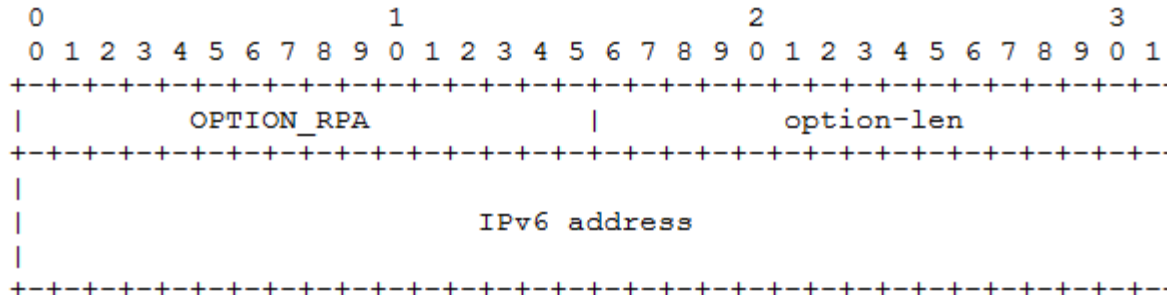


VNI DHCPv6 Option format

# Solution 2: IPv4/IPv6 Rendezvous Point (RP) Option for DHCP/DHCPv6

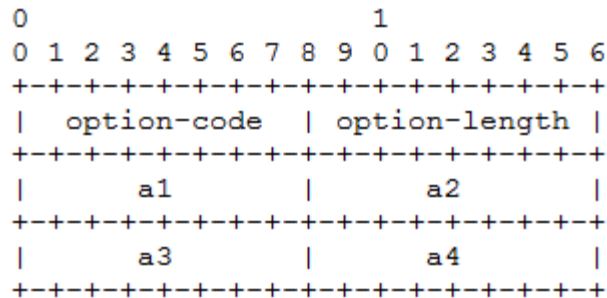


**IPv4 Rendezvous Point Address Option Format**

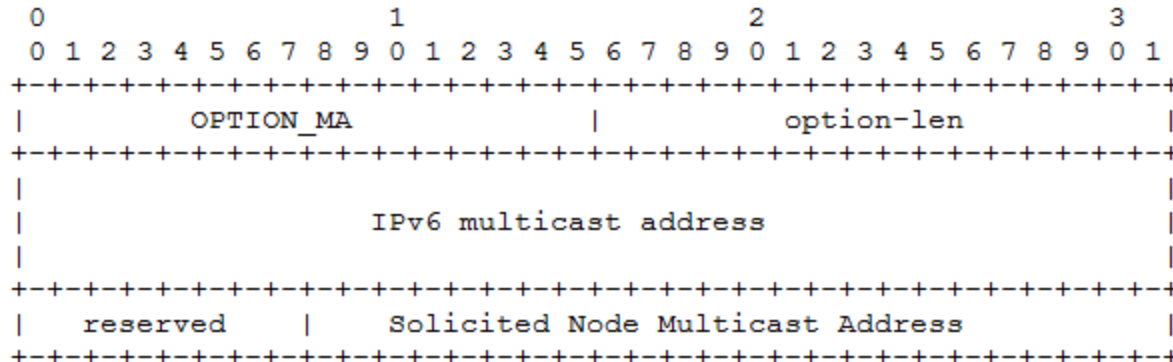


**IPv6 Rendezvous Point Address Option Format**

# Solution 3: IPv4/IPv6 Multicast Address Option for DHCP/DHCPv6



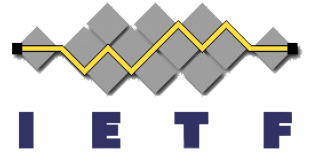
**IPv4 Multicast Address Option Format**



**IPv6 Multicast Address Option Format**

Please comment and  
help us improve the draft





Thank you