VXLAN Generic Protocol Extension (VXLAN-GPE)

Draft-quinn-vxlan-gpe

- **P. Quinn**, D. Lewis, L. Kreeger, F. Maino, *CISCO*
- P. Agarwal, *BROADCOM*
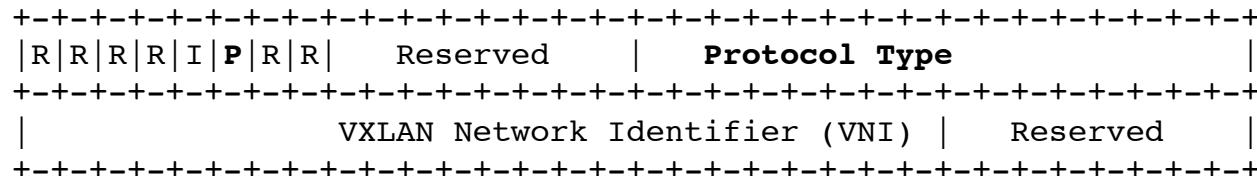- M. Smith, N. Yadav, *INSIEME NETWORKS*

IETF 88, Vancouver, BC, Canada

Why VXLAN-GPE

- VXLAN can only encapsulate Ethernet
- VXLAN header does have a field to indicate type of protocol being encapsulated
- Other protocols – e.g. IPv4 and IPv6 – also require VXLAN-based overlay transport
- Results: the need for multiple overlay protocols

VXLAN-GPE

- Define lower 16 bits in first word of VXLAN header as protocol type
- **Define Protocol bit (P bit)**
  - P=0: payload MUST conform to VXLAN as currently defined (i.e. Ethernet)
  - P=1: Indicates presence of protocol type field

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|R|R|R|R|I|P|R|R|     Reserved     |        Protocol Type         |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|               VXLAN Network Identifier (VNI) |    Reserved     |
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Summary

- Enables operators to use VXLAN for all protocols
- Compatible with draft-lewis-lisp-gpe → see presentation at LISP WG Thursday morning
- Working with authors of draft-yong-l3vpn-nvgre-vxlan-encap to align on common format