VXLAN Generic Protocol Extension (VXLAN-GPE)

Draft-quinn-vxlan-gpe

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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

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

Slide 3
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