

Signaling Tunnel Encapsulation Capabilities

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Overview

- Introduction
- Motivation
- BGP Extension
- LDP Extension
- Considerations
- Conclusion

Introduction

- Mechanism for signaling a PE's tunnel encapsulation capabilities
 - MPLS in IP or “soft-GRE” is an example
- PE can learn remote PE's encapsulation capabilities
- Tunnel is ‘up’ if locally configured and capability learned from the remote end

Motivation

- Black-hole avoidance
 - A PE knows if it can send MPLS in soft-GRE traffic to a remote PE
- Co-existing MPLS and IP/soft-GRE tunneling
 - A 2547 network may comprise MPLS and soft-GRE backbone
- Transitioning
 - No need to turn on MPLS or soft-GRE on all the routers before transitioning
- Applicable to 2547, VR based VPNs, Layer 2 VPNs and IPv6 tunnels

BGP Extension

- BGP Opaque Tunnel Encapsulation Capabilities Extended Community
 - Can be attached to a BGP NLRI
 - Non-transitive across AS boundary
 - Encapsulation capabilities bit-mask
- Applicability
 - 2547 and VR based VPNs
 - BGP based Layer 2 VPNs
 - IPv6 tunneling and IPv6 applications

LDP Extension

- LDP Tunnel Encapsulation Capabilities Session TLV
 - Optional parameter in the Initialization message
 - Encapsulation capabilities bit-mask
- Applicability
 - LDP based Pseudo Wires
 - LDP based Layer 2 VPN

Considerations

- Configuration knob to trigger encapsulation capabilities announcement
- IANA considerations

Conclusion

- Merges drafts:
 - draft-raggarwa-ppvpn-mpls-ip-gre-sig-00.txt
 - draft-cristallo-bgp-tunnel-attr-00.txt
- Why is it targeted at this WG ?
 - Directly related to 2547 and Layer 2 VPNs
 - 2547 and Layer 2 VPNs are a product of the PPVPN WG
- Request to be a WG document



<http://www.ietf.org/internet-drafts/draft-raggarwa-ppvnp-tunnel-encap-sig-00.txt>