

Protocol actions required for BGP/MPLS VPNs (rfc2547bis)

draft-rosen-ppvpn-2547bis-protocol-00.txt

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BGP

- No new BGP protocol actions required
- MP-BGP : RFC 2858, proposed standard
- “BGP extended communities attributes”, draft-ietf-idr-bgp-ext-communities-05.txt, past WG last call, st. track
- “Capabilities advertisement with BGP-4”, RFC 2842, proposed standard
- VPN-IPv4 address family (as in 2858)
- VPN-IPv6 address family (as in 2858)
 - for draft-ietf-ppvpn-bgp-ipv6-vpn-02.txt
- optional : Route Refresh Capability, PS RFC 2918
- optional : "Cooperative Route Filtering Capability for BGP-4", draft-ietf-idr-route-filter-06.txt (idr WG document)

OSPF

- OSPF: non-normative references
- "OSPF as the PE/CE Protocol in BGP/MPLS VPNs",
draft-rosen-vpns-ospf-bgp-mpls-04.txt
 - no additional protocol actions required by other WG
 - doesn't specify case where CE/PE link is area 0 link
 - use of BGP extended communities attribute
- "OSPF Area 0 PE/CE Links in BGP/MPLS VPNs",
draft-rosen-ppvvpn-ospf2547-area0-00.txt
 - requires the use of previously unused OSPF option bits:
needs to be approved by another WG

draft-ietf-ppvpn-ipsec-2547bis-02.txt

- [transport mode IPsec on an IP-encapsulated MPLS (one label) packet]
 - transport instead of tunnel mode IPsec
 - egress PE may exert policy control on SA, BGP may distribute policy information
 - choice of SA is determined by routing

conclusion

- base spec “BGP/MPLS VPNs” (and IPv6 VPNs)
 - no new protocol actions by other WGs
- OSPF as CE-PE routing protocol
 - non area 0 : no new protocol actions
 - area 0 link : OSPF protocol action required
- draft-ietf-ppvpn-ipsec-2547bis-02.txt
 - no new protocol actions by other WGs
- multicast considerations : later version

Protocol actions – VR-based PPVPNs

Potential protocol dependencies of
draft-ietf-ppvpn-vpn-vr-03.txt

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Virtual router (VR) – Potential Protocol Dependencies

- Key Requirement: Exchange VPN-ID among VRs
 - For auto-configuration; not needed for VR operation if configuration is done by network management system
 - VPN-ID : RFC 2685 or similar
 - Auto-discovery (like draft-ietf-ppvpn-auto-02.txt) can do this where BGP extensions are used for auto-discovery
- IPsec-based exchange of VPN-ID may need to be defined - some likely candidates (in order of preference):
 - 1) Use a new ISAKMP payload type – the Traffic Selector (TS) payload (draft-ietf-ipsec-ikev2-02.txt) looks good
 - 2) New Identification Type in ISAKMP Identification payload
 - 3) New Notification Message type (??)
 - 4) New Vendor ID payload – reserved vendor type (??)