

# Thoughts on A RFC6514bis

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# RFC6514 & Relevant RFCs

- RFC6514 is an enormous spec itself for BGP-MVPN with a lot of follow-up specifications
- Clarifications
  - RFC6515: IPv4/IPv6 Infrastructure Addresses in BGP-MVPN routes
- Feature Extensions
  - RFC6625: wildcard A-D routes
  - RFC7899: state damping
  - RFC7988: ingress replication tunnels
  - RFC9081: MVPN-MSDP SA route interaction
  - RFC7441: mLDP FEC encoding
  - RFC7582: bidirectional provider tunnels (PIM-bidr, MP2MP LSP)
  - RFC7900: extranet
  - RFC8534: Explicit Tracking in wildcard A-D routes
  - RFC7740: IR optimization for C-BIDIR
  - RFC7716: Global Table Multicast with BGP-MVPN
  - RFC7024: Virtual Hub and Spoke
  - RFC7524: Inter-area segmentation
  - RFC9026: upstream redundancy
  - RFCxxxx: mvpn-evpn aggregation label

# Outstanding Protocol Issues

- MVPN Inter-AS Upstream PE Selection based on unicast routes
  - Traffic blackholes may happen with selective tunnels
  - Traffic duplications may happen with inclusive tunnels
  - [Section 1.4](#) of draft-zhang-bess-mvpn-evpn-cmcast-enhancements
- Non-segmented Inter-AS support with IPv6 infrastructure
  - The Source AS field in the C-Multicast Route encodes the UMH PE's IPv4 Address
    - Used to propagate the C-Multicast route along the reverse path of the UMH's I-PMSI route
    - This does not work for an IPv6 infrastructure
  - Different solutions proposed in:
    - [Section 2.2](#) of draft-zhang-bess-mvpn-evpn-cmcast-enhancements
    - [Section 3.2](#) of draft-duan-bess-mvpn-ipv6-infras
  - [Debates](#) between the authors of the two drafts

# Desired Enhancements

- draft-zhang-bess-bgp-mvpn-source-active-route
- Inter-area segmentation enhancements
  - Remove area restriction/assumption
  - A draft is in the work – including another enhancement
- C-multicast enhancements
  - draft-zhang-bess-mvpn-evpn-cmcast-enhancements
- Other enhancements in various drafts

# RFC6514bis?

- The thought of a RFC6514bis was brought up when the chairs were considering the adoption requests for:
  - draft-zhang-bess-mvpn-evpn-cmcast-enhancements
  - draft-duan-bess-mvpn-ipv6-infras
- The solutions to the two protocol issues would be the main driver for a RFC6514bis
  - Though they could be addressed by separate specifications as well
  - Either way, we first need to decide which solution we should adopt

# Potential Additions in RFC6514bis

- Add solutions for the two protocol issues
- Fold draft-zzhang-bess-bgp-mvpn-source-active-route to RFC6514bis
- Fold the following RFC content to RFC6514bis
  - RFC6515: IPv4/IPv6 Infrastructure Addresses in BGP-MVPN routes
  - RFC6625: wildcard A-D routes ???
  - RFC9081: MVPN-MSDP SA route interaction
  - RFC7441: mLDP FEC encoding
  - RFC8534: Explicit Tracking in wildcard A-D routes ???
  - RFCxxxx: mvpn-evpn aggregation label ???
- Other issues/enhancements TBD

# Next Steps

- WG discussions!
  - Especially the two outstanding protocol issues and proposed solutions
- Other issues/enhancements that may be added to RFC6514bis?