

Flowspec Extensions for

- Layer 2 VPN
- Tunnels

draft-ietf-idr-flowspec-l2vpn
draft-ietf-idr-flowspec-nvo3

Donald E. Eastlake, 3rd

d3e3e3@gmail.com

draft-ietf-idr-flowspec-l2vpn-12

- Authors: Weiguo Hao, Donald Eastlake, James Uttaro, Stephane Litkowski, Shunwan Zhuang
- Changes from version -11
 - Clarify that spec is for AFI=25/SAFI=134
 - Includes flowspec validation
 - Extended to cover Drop Eligible Indication (DEI) in tags
 - New component types now TBDs rather than values
 - Significant Editorial Changes

flowspec-l2vpn-12 Question

- What AFI/SAFI should be used/allowed?
 - Author says
 - AFI 25 = “AFI for L2VPN”
 - SAFI 134 =
 - “VPNv4 dissemination of flow specification rules” (now)
 - “L3VPN dissemination of flow specification rules” (soon)
 - “VPN dissemination of flow specification rules” (suggested)
- so 25/134 is logical and unambiguous
- AFI=6, SAFI=133 easy to add for L2 non-VPN flowspec
 - Some commenters say “must have new SAFI”
 - WG should decide

draft-ietf-idr-flowspec-nvo3-06

- **Authors:** Donald Eastlake, Weiguo Hao , Shunwan Zhuang, Zhenbin Li, Rong Gu
- **Previous Version -06:**
 - Focused just on NVO3
 - Used existing SAFIs?
 - Only supported VXLAN and NVGRE
 - Used “Delimiter” component to mark the boundary between the flowspec for a header and the flowspec for the next nested header

draft-ietf-idr-flowspec-nvo3-07

- **Current Version -07:**
 - Applies to general tunneling/encapsulation
 - Uses a new SAFI TBD
 - Detailed text for VXLAN, VXLAN-GPE, NVGRE, L2TPv3, GRE, and IP-in-IP.
 - Uses New NLRI structure that can contain one or two sequences of flowspec components
 - First flowspec required and applies to outer header
 - Second flow spec (optional) applies to inner header

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- **Attribute: High Level View**

AFI
SAFI (TBD, tunneled flowspec)
Next Hop information

- **New NLRI:**

Tunnel Type (BGP Tunnel Encapsulation Attribute Tunnel Types)
Flags: Routing Discriminator / 2 nd Flowspec / Reserved
Routing Discriminator (Optional)
Outer Flowspec
AFI + Inner Flowspec (Optional)



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- **New NLRI:**
 - **More Detail**

Overall Length
Tunnel Type
Flags: Routing Discriminator / 2 nd Flowspec / Reserved
Routing Discriminator (Optional)
Outer Flowspec Length
Outer Flowspec
AFI for Inner Flowspec
Inner Flowspec Length
Inner Flowspec

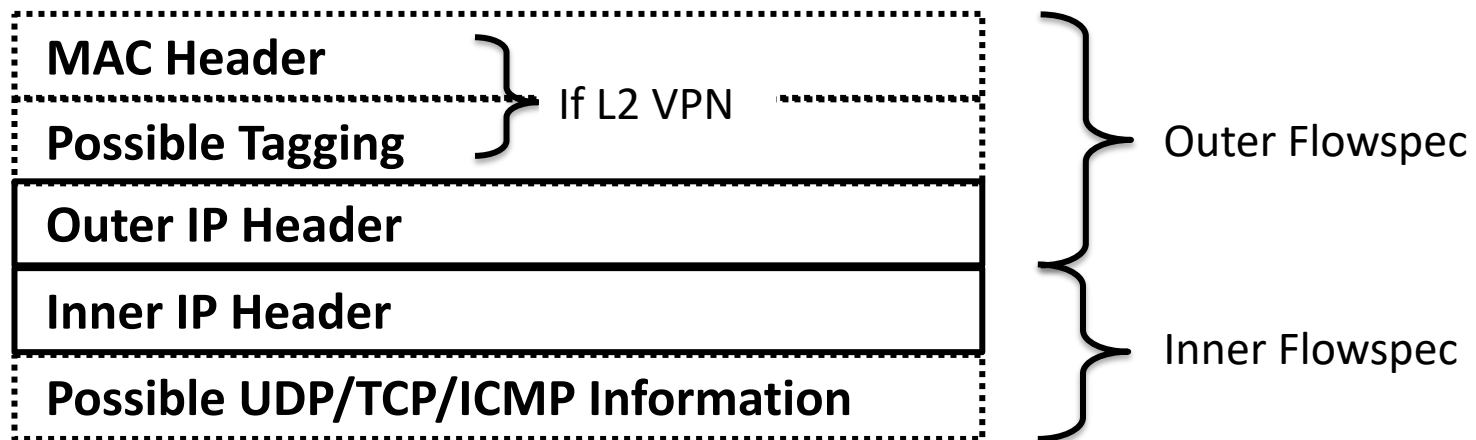
} (Optional)

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- **Version -07 More Details:**
 - Add components for tunneling headers.
 - Extends flow spec ordering rule to cover cases where both tunneled and non-tunneled flowspecs apply or two tunneled flowspecs apply.
 - Includes validation based on outer flowspec.

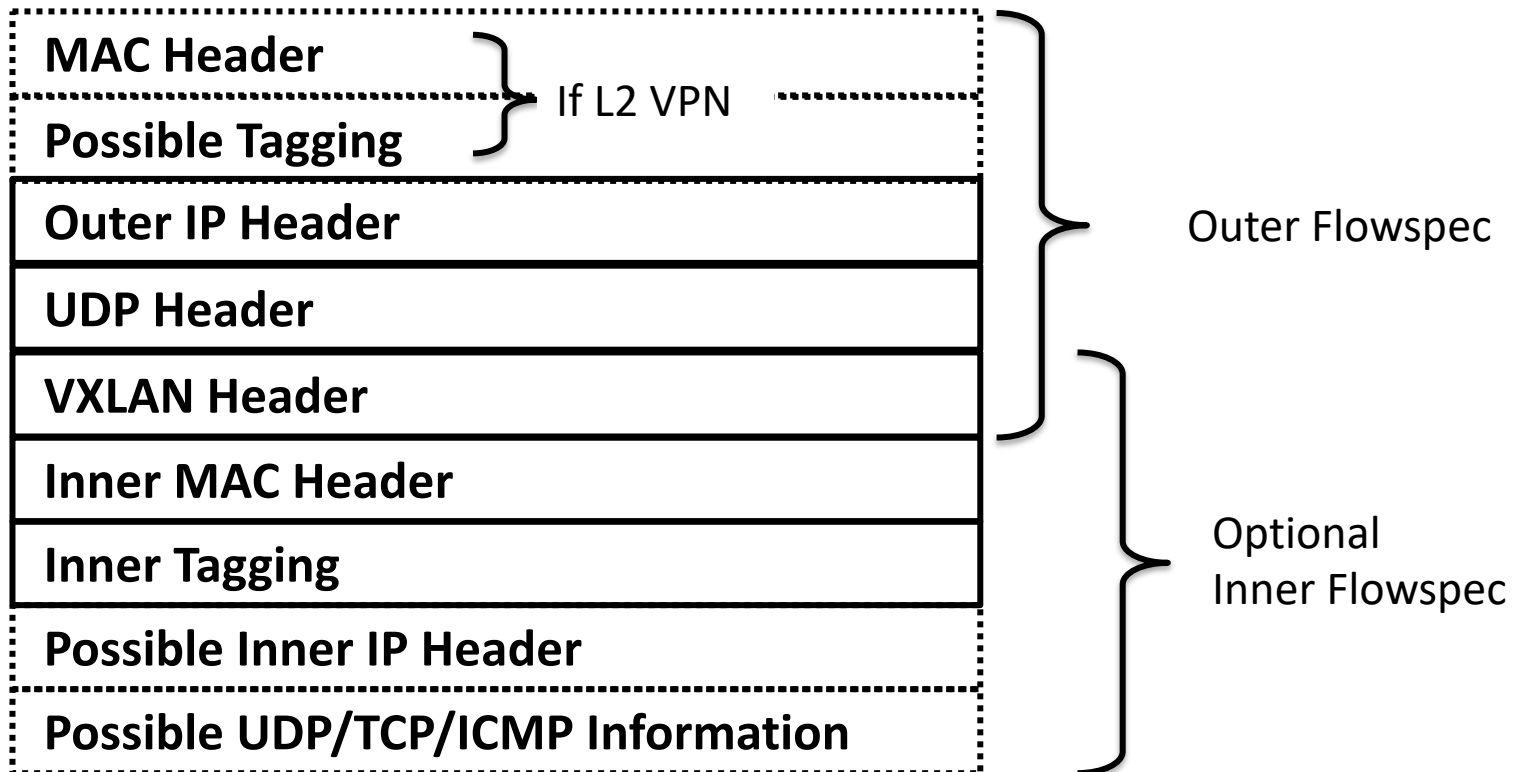
flowspec-nvo3-07 Example

- **IP in IP:**



flowspec-nvo3-07 Example

- VXLAN:**



Next Steps

- **draf-ietf-idr-flowspec-l2vpn:**
 - Decide between SAFI=134 and a new SAFI
 - Early allocation of code points for implementation
- **draf-ietf-idr-flowspec-nvo3:**
 - Please look at version -07 and provide feedback
 - Early allocation of code points for implementation

END

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