

Export BGP community information in IPFIX

draft-ietf-opsawg-ipfix-bgp-community-02.txt

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Main content

- Traffic aggregation in BGP community granularity is useful for several applications such as backbone network traffic engineering.
- This draft introduces several new information elements in IPFIX to export the BGP community information of a specific traffic flow.
- BGP community information includes:
 - community defined in [RFC1997], we call it standard community
 - extended community defined in [RFC4360]
 - large community defined in [RFC8092]
 - community container defined in [I-D.ietf-idr-wide-bgp-communities]

Current status

- Information elements to export BGP standard community, extended community and large community are included.
 - Three IEs are defined for each kind of BGP community.

ElementID	to be assigned by IANA
Name	bgpLargeCommunity
Data Type	octetArray
Data Type Semantics	default
Description	BGP Large Community as defined in [RFC8092] The size of this Information Element is 12 octets.
Units	none

Figure 7: bgpLargeCommunity

ElementID	to be assigned by IANA	ElementID	to be assigned by IANA
Name	bgpSourceLargeCommunityList	Name	bgpDestinationLargeCommunityList
Data Type	basicList, as specified in [RFC6313]	Data Type	basicList, as specified in [RFC6313]
Data Type Semantics	list	Data Type Semantics	list
Description	zero or more BGP Large Communities corresponding with source IP address of a specific flow	Description	zero or more BGP Large communities corresponding with destination IP address of a specific flow
Units	none	Units	none

Figure 8: bgpSourceLargeCommunityList

Figure 9: bgpDestinationLargeCommunityList

Current status

- Community container is **NOT** included at present!
 - The encoding format is totally different .

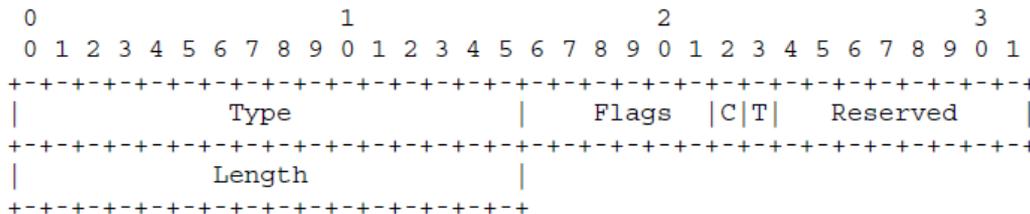


Figure 1: Common container header

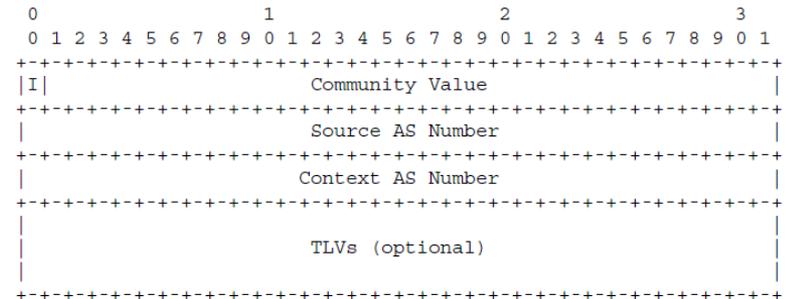


Figure 2: Type 1, BGP Wide Community

- The purpose is different.
- More types will be defined in the BGP community container, we have to update this doc accordingly.

I **DON'T** think it is suitable to include the BGP Community container in this document.

Current status

- About the IPFIX message length. Does one IPFIX message have enough space to fit all the BGP communities related to a specific flow?
 - Without BGP extended message, **YES**.
 - The maximum length of one BGP message is 4096 bytes as per RFC4271 and 64K bytes for one IPFIX message as per RFC7011.
 - With BGP extended message, **NO**.
 - [I-D.ietf-idr-bgp-extended-messages] extends the maximum update message size of BGP to 64k bytes.
 - To solve this problem completely, we extend the message length of IPFIX from 16 bits to 32 bits.

Next steps

- WGLC?

Thanks