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Four-octet AS Specific BGP Extended Community

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Abstract

This document defines a new type of a BGP extended community - fouroctet AS specific extended community. This community allows to carry 4 octet autonomous system numbers.

Specification of Requirements

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in RFC 2119 [RFC2119].

1. Introduction

This document defines a new type of a BGP ([BGP-4]) extended community ([EXT-COMM]) - four-octet AS specific extended community. This type of extended community is similar to the two-octet AS specific extended community, except that it can carry a four octets autonomous system number.

2. Four-octet AS specific extended community

This is an extended type with Type Field comprising of 2 octets and Value Field comprising of 6 octets.

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0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 5 3 4 5 6 7 8 9 0 1 1 2 3 4 5 6 7 8 9 0 1 1 2 3 4 5 6 7 8 9 0 1 1 2 3 4 5 6 7 8 9 0 1 1 2 3 4 5 6 7 8 9 0 1 1 2 3 4 5 6 7 8 9 0 1 1 2 3 4 5 6 7 8 9 0 1 1 2 3 4 5 6 7 8 9 0 1 1 2 3 4 5 6 7 8 9 0 1 1 2 3 4 5
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The value of the high-order octet of this extended type is either 0x02 or 0x42. The low-order octet of this extended type is used to indicate sub-types.

The Value Field consists of two sub-fields:

Global Administrator sub-field: 4 octets

This sub-field contains a 4-octets Autonomous System number assigned by IANA.

Local Administrator sub-field: 2 octets

The organization identified by Autonomous System number in the Global Administrator sub-field, can encode any information in this sub-field. The format and meaning of the value encoded in this sub-field should be defined by the sub-type of the community.

3. IANA Considerations

This document defines a class of extended communities called four-octet AS specific extended community for which the IANA is to create and maintain a registry entitled Four-octet AS Specific Extended Community. All the communities in this class are of extended Types. Future assignment are to be made using the "First Come First Served" policy defined in [RFC2434]. The Type values for the transitive communities of the four-octet AS specific extended community class are 0x0200-0x02ff, and for the non-transitive communities of that class are 0x4200-0x42ff. Assignments consist of a name and the value.

This document makes the following assignments for the four-octet AS specific extended community:

Name				Type Value
four-octet AS	specific	Route	Target	0x0202
four-octet AS	specific	Route	Origin	0x0203

4. Security Considerations

All the security considerations for BGP Extended Communities apply here.

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8. Acknowledgements

9. Normative References

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[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", <u>BCP 14</u>, <u>RFC 2119</u>, March 1997.

[RFC2434] Narten, T., Alvestrand, H., "Guidelines for Writing an IANA Considerations Section in RFCs", <u>RFC2434</u>, October 1998.

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10. Non-normative References

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