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Internet-Draft

Intended status: Standards Track

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July 18, 2016

# Large BGP Community draft-heitz-idr-large-community-02

#### Abstract

A new type of BGP community attribute that contains communities that each hold a 4-octet AS number and a 8-octet opaque field is defined.

#### Requirements Language

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 [RFC2119].

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#### 1. Introduction

A BGP Community attribute is defined that encodes 12 byte communities, suitable for 4-Octet Autonomous System Numbers that require 8 octets of locally significant opaque data.

To ensure rapid and smooth adoption of the new community attribute, it must be as similar to the [RFC1997] community as possible, only bigger.

# 2. Large BGP Community Attribute

The Large Community Attribute is a transitive optional BGP attribute, with the Type Code (suggested 41) to be assigned by IANA. The attribute consists of a set of "Large Communities". All routes with the Large Community attribute belong to the communities listed in the attribute.

Each Large Community is encoded as a 12-octet quantity, as follows:

0		1												2									2									
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	
+-	+-															-																
	Autonomous System number																															
+-	+-															-																
	Local Data Part 1																															
+-	+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-															+ - +	-															
													L	эса	al	Dá	ata	a F	Pai	rt	2											

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# 3. Textual Representation

The textual representation of the Large BGP Community is A:B:C, where A is the Autonomous System number, B is the Local Data part 1 and C is the Local Data part 2. A ranges from 0 to 4294967295. B ranges from 0 to 4294967295. C ranges from 0 to 4294967295. A, B and C are plain decimal non-negative integers without leading zeroes. Each number must appear, even if it is 0. For example, "0:1:2" cannot be written as ":1:2". The string is expected to match the following regular expression:  $^{0}-^{0}+^{0}-^{0}+^{0}$ 

## 4. Security Considerations

TBD

#### 5. IANA Considerations

IANA is requested to assign a BGP path attribute value for the Large community attribute.

## Acknowledgements

Thanks to Russ White, Acee Lindem, Shyam Sethuram and Jared Mauch for insightful review and comments.

#### 7. Normative References

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