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Extended Community Based Outbound Route Filter for BGP-4

[draft-chen-bgp-ext-community-orf-00.txt](#)

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Abstract

This document defines a new Outbound Router Filter type for BGP, termed "Extended Community Outbound Route Filter", that can be used to perform extended community based route filtering.

1. 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 [RFC2119](#) [[RFC2119](#)].

2. Introduction

The Cooperative Outbound Route Filtering Capability defined in [BGP-ORF] provides a mechanism for a BGP speaker to send to its BGP peer a set of Outbound Route Filters (ORFs) that can be used by its peer to filter its outbound routing updates to the speaker.

This document defines a new Outbound Router Filter type for BGP [[BGP-4](#)], termed "Extended Community Outbound Route Filter", that can be used to perform the extended community [[BGP-EXT-COMMUNITIES](#)] based route filtering.

3. Extended Communities ORF-Type

The Extended Community ORF-Type allows to express ORFs in terms of BGP Extended Communities. That is, the Extended Communities ORF-Type provides Extended Communities-based route filtering.

Conceptually the ORF-value of the Extended Communities ORF-Type consists of a single Extended Community.

The sender SHOULD set the value of the Match field to PERMIT; the receiver SHOULD ignore the value of the Match field.

The remote peer should consider only those routes whose Extended Communities attribute has at least one Extended Community in common with the Extended Communities list specified in the ORF.

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[4.](#) Extended Communities ORF Encoding

The value of the ORF-Type for the Extended Communities ORF-Type is 3.

The type-specific part of Extended Communities ORF-Type consists of a single Extended Community encoded as an eight-octets field.

[5.](#) IANA Considerations

This document specifies a new Outbound Route Filtering (ORF) type, Extended Community ORF. The value of the ORF-type is 3.

[6.](#) Security Considerations

This extension to BGP does not change the underlying security issues.

[7.](#) Normative References

[BGP-4] Rekhter, Y., and T. Li, "A Border Gateway Protocol 4 (BGP-4)", [RFC4271](#), January 2006.

[BGP-EXT-COMMUNITIES] Sangli, S., Tappan, D., and Y. Rekhter, "BGP Extended Communities Attribute", [RFC4360](#), February 2006.

[BGP-ORF] Chen, E., and Rekhter, Y., "Cooperative Route Filtering Capability for BGP-4", [draft-ietf-idr-route-filter-14.txt](#), June 2006.

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [BCP 14](#), [RFC 2119](#), March 1997.

[8.](#) Author Information

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