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**RFC 4360 Clarification Request**  
**draft-decraene-idr-rfc4360-clarification-00**

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## Abstract

This draft describes a request for clarification of the Operations Section of [[RFC4360](#)], regarding the handling of non transitive extended communities.

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## **1. Introduction**

This draft describes a request for clarification of the Operations Section of [[RFC4360](#)], regarding the handling of non-transitive extended communities.

While interpreting the [Section 6 of \[RFC4360\]](#), an implementation may handle non-transitive extended communities over eBGP sessions in a way preventing neighboring ASes to practically use non-transitive extended communities between each other. Such implementations restrict the benefits of non-transitive communities to internal uses only, which looks unfortunate.

[Section 2](#) describes the request for clarification and [Section 4](#) suggests some changes to [RFC 4360](#) that would help in precisising desired handling of non-transitive extended communities. [Section 3](#) describes what behavior we observed by running tests on various implementations.

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](#)].

## **2. Request**

As of [RFC 4360](#), "If a route has a non-transitive extended community, then before advertising the route across the Autonomous System boundary the community SHOULD be removed from the route."

This statement is unclear regarding two aspects of the handling of such non-transitive communities over eBGP sessions.

First, it is unclear whether a BGP speaker setting / adding a non-transitive extended community on the outbound policy of an eBGP session is compliant with the [RFC 4360](#) (Clarification A).

Second, it is unclear whether a BGP speaker supporting [RFC 4360](#) is allowed to enforce the removal of a non-transitive community in a path received over an eBGP session (Clarification B).

## **3. Observed behaviors**

Different behaviors can be observed on recent implementations from different vendors.

Some implementations remove any non-transitive extended communities



from paths received over eBGP sessions, hence disallowing applications of non-transitive extended communities over eBGP sessions.

Other implementations ignore non-transitivity and propagate non-transitive communities over eBGP sessions, hence not applying the "SHOULD be removed" in [Section 6 of \[RFC4360\]](#).

While all these behaviors are compliant with [RFC 4360](#), they limit the benefits of non-transitive communities to internal uses.

#### **[4.](#) Suggested clarifications**

The suggested clarification for (Clarification A) is to let [RFC 4360](#) specify that all routes received carrying an extended communities attribute containing a non-transitive community SHOULD have this(these) non-transitive community(ies) removed before advertising the route to another Autonomous System (i.e. on an eBGP session). Note that this behavior and wording is in-lined with the definition of the NO\_EXPORT well known community in [\[RFC1997\]](#). It allows the advertisement of a non-transitive extended community over an eBGP session if this community is added on the outbound policy of an eBGP session.

The suggested clarification for (Clarification B) is to let [RFC 4360](#) specify that a BGP speaker supporting [RFC 4360](#) SHOULD NOT silently enforce the removal of a non-transitive attribute received over an eBGP session, but SHOULD allow this community to be captured by a configured inbound filter associated with eBGP sessions. This behaviour MAY be made configurable but the default SHOULD be to implement the suggested clarifications defined above in this section.

#### **[5.](#) References**

- [RFC4360] Sangli, S., Tappan, D., and Y. Rekhter, "BGP Extended Communities Attribute", [RFC 4360](#), February 2006.
- [RFC1997] Chandrasekeran, R., Traina, P., and T. Li, "BGP Communities Attribute", [RFC 1997](#), August 1996.
- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [BCP 14](#), [RFC 2119](#), March 1997.



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