         Use of the Cost Community to carry the Accumulated IGP Metric
                 draft-retana-idr-aigp-cost-community-01

Abstract

   This document explains the use of the Cost Community to flexibly
   carry the Accumulated IGP Metric.

Status of This Memo

   This Internet-Draft is submitted in full conformance with the
   provisions of BCP 78 and BCP 79.

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1. Introduction

The Accumulated IGP Metric (AIGP) Attribute [RFC7311] has been
defined with the purpose of carrying an AIGP. The attribute is used
in the BGP selection process before the tie braking procedures
[RFC4271], effectively after the LOCAL_PREF comparison.

The Cost Community [I-D.ietf-idr-custom-decision] can provide a
flexible mechanism to carry the AIGP. It can se used both at a
different point in the selection process, or as a direct replacement
for the AIGP attribute in networks that don't fully support it.

2. 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].

3. Use of the Cost Community to carry the AIGP

The applicability and procedures defined in [RFC7311] for originating
and modifying the AIGP value are not changed in this document. The
value is used as the Cost of the Cost Community.

The Point of Insertion (POI) can be set to any of the values defined
in [I-D.ietf-idr-custom-decision]. Note that the use of the
LOCAL_PREF POI is equivalent to using the AIGP Attribute in routers
that don't support it.

If the Cost Community is used to carry the AIGP value, then the AIGP
Attribute SHOULD NOT be used. If used, then the high-order bit of
the Community-ID MUST be set in a Cost Community with a POI of AIGP
to avoid an inconsistent selection process. Note that this operation
doesn't preclude using a Cost Community with a Cost of the AIGP at a
different POI.

4. Security Considerations

This document explains the use of the Cost Community to provide
flexibility in the application of routing policy related to the
accumulated IGP metric of a route. As such, it does not introduce
new security risks than the ones considered in
[I-D.ietf-idr-custom-decision] or [RFC7311].

5. IANA Considerations

This document has no IANA actions.

6. Acknowledgements

TBD

7. References

7.1. Normative References

[I-D.ietf-idr-custom-decision]
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[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate
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[RFC7311] Mohapatra, P., Fernando, R., Rosen, E., and J. Uttaro,
          "The Accumulated IGP Metric Attribute for BGP", RFC 7311,
          August 2014.

7.2. Informative References

[RFC4271] Rekhter, Y., Li, T., and S. Hares, "A Border Gateway
          Protocol 4 (BGP-4)", RFC 4271, January 2006.

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