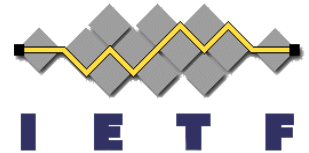


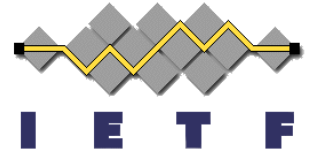
Generic-Metric For AIGP

draft-ssangli-idr-bgp-generic-metric-
aigp

IETF 111

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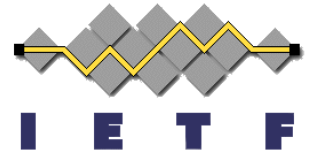


Agenda

- draft-ssangli-idr-bgp-generic-metric-aigp
 - Problem statement
 - Interpretations from RFC 7311
 - Generic-Metric TLV
 - BGP Best Path Selection
 - Example

Problem Statement

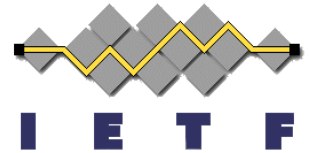
- The IGP metric has evolved:
 - IGP default Cost, latency, bandwidth etc
- AIGP currently only supports IGP default cost
- We propose the extension of AIGP attribute to carry Generic-Metric TLV
- New metric-type field maps to the IGP metric-type registry, making translation between IGP to BGP easier



Interpretation from RFC 7311

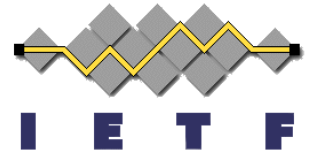
- AIGP Attribute contain no more than one AIGP TLV. Any other AIGP TLV must be passed along.
 - All other TLVs (type 2 or 3) must be passed
- AIGP TLV is not malformed if it has more than one TLV of a type or unknown type.
 - If TLV is recognized, process and update it.
 - If TLV is unrecognized, how should it be processed.

Usage Of Generic-Metric TLV



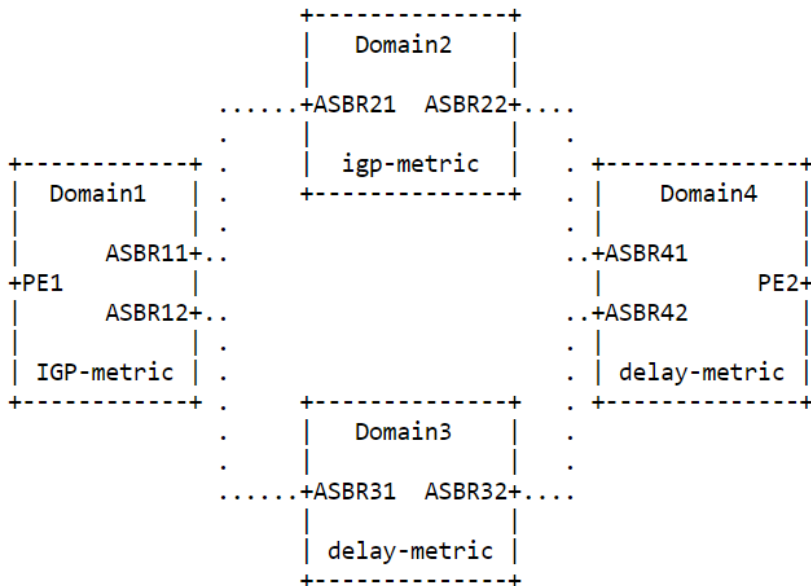
- Originator:
 - Same as RFC7311
 - Advertised only if AIGP attribute is enabled
 - If the domain uses other metric than IGP cost, use Generic Metric TLV.
- Receiver :
 - metric-type matches, use the received value
 - metric-type differs, normalize the value to received metric-type
 - Generic-Metric TLV is not recognized, ignore

Updates to Best Path Decision



- Generic Metric TLV is preferred over AIGP TLV
 - Drop routes without Generic Metric TLV
- Route R has Generic Metric-value = T
 - Metric type matches
 - Compute $C = T + n$ (Metric to reach NH)
 - Metric type doesn't match
 - Compute $C = T + m$ (Normalize value to metric type)
- Consider routes tied with lowest value of C
- Among two routes that have Generic-Metric, prefer the lowest metric-type.

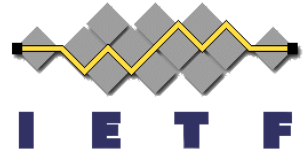
Example



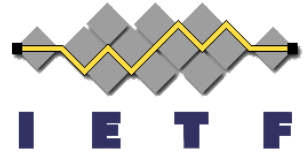
- Domain 4 and Domain 3 uses delay metric
- Domain 2 and Domain 1 uses igp-metric
- When advertising ASBR41 and ASBR 42 originate Generic-Metric TLV, with metric-type as delay (1).
- The metric type is set by the originator

Other Requirements

- If receiver node does not understand the Generic-Metric TLV in the AIGP attribute:
 - Process the AIGP as per RFC7311
 - When advertising, it should also pass the Generic-Metric TLV. [RFC7311]



COMMENTS WELCOME



Thank you