

BGP Custom Decision Process (draft-retana-bgp-custom-decision-01)

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Motivation

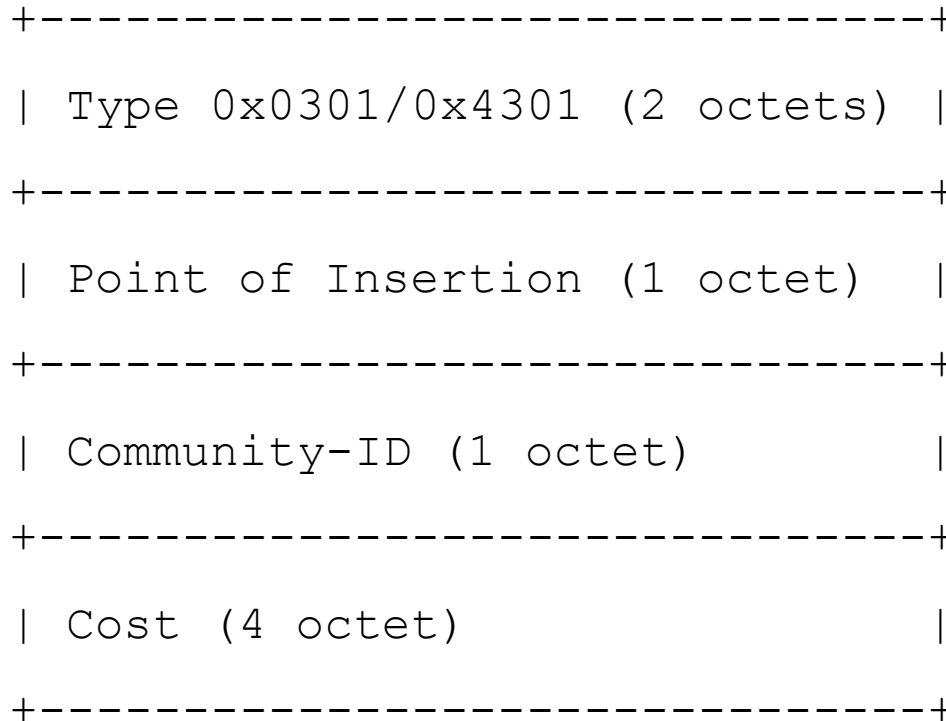
- The BGP uses the path attributes and other criteria (BGP ID, for example) to select a best path.
 - Not all the attributes/metrics are used during the selection.
 - The decision process doesn't provide flexibility to assign locally significant criteria, except at pre-determined points (LOCAL_PREF, for example).
 - Other policies require complex configurations. It is cumbersome (if at all possible) for the end user to define policies that will select, after partial comparison, a path based on subjective local (domain and/or node) criteria.
- A flexible, locally significant metric is needed to address the specific policies of an AS.

Solution Proposed

- The *Cost Community* is an extended community that can be inserted at any point(s) into the BGP selection process.
 - Allows for **custom selection process** rules!!

Cost Community

Format



Value of the path attribute after which this community should be considered during the best path selection process.

Multiple communities may be used.

Locally significant cost. Lower cost is preferred. Default value is 0x7FFFFFFF

Operation

- The Point of Insertion, Community ID and Cost are assigned by the local administrator.
 - All *Cost Communities* should be advertised throughout the local AS.
 - The Cost SHOULD be considered at the Point of Insertion specified.
- Paths that do not contain the *Cost Community* (for a particular Point of Insertion) MUST be considered to have the default value.
- Should only be used if a consistent best path selection implementation is deployed.

Changes from version -00

- Defined a transitive type. (Section 3)
- Updated the IANA Considerations (Section 6) to create a Cost Community Point of Insertion Registry. (Appendix A)
- Miscellaneous Updates: updated format, refreshed references, updated acknowledgements, minor edits.

Next Steps

- Adopt this draft as a WG document.
 - Category: Standards Track
 - Draft proposes a “POI Registry” maintained by IANA.
- Current Status
 - Two (independent) implementations have been deployed: IOS and IOS-XR.