

Route Refresh Options Extension

draft-idr-bgp-route-refresh-options-00.txt

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Problem Statement (1)

- BGP Route Refresh currently has no way of one-shot requesting a subset of the BGP Adj-RIB-Out
- Newer address families support multiple route types which can support different parts of the procedures (discovery, election) as well as unicast, multicast
- Address families with large numbers of elements may be stored on the receiving side only partially (VPNs, LS) or have to be demanded based on policies or configuration

Problem Statement (2)

- BGP ORF is unwieldy since

ORF is persistent and interferes with ongoing updates

Changing ORF while the refresh is running is an interesting topic (refreshes for subset of elements while ORF refresh is already going on)

- RT could deal with the problem (if deployed) but preconditions provisioning of a target per every possible set that needs refreshing

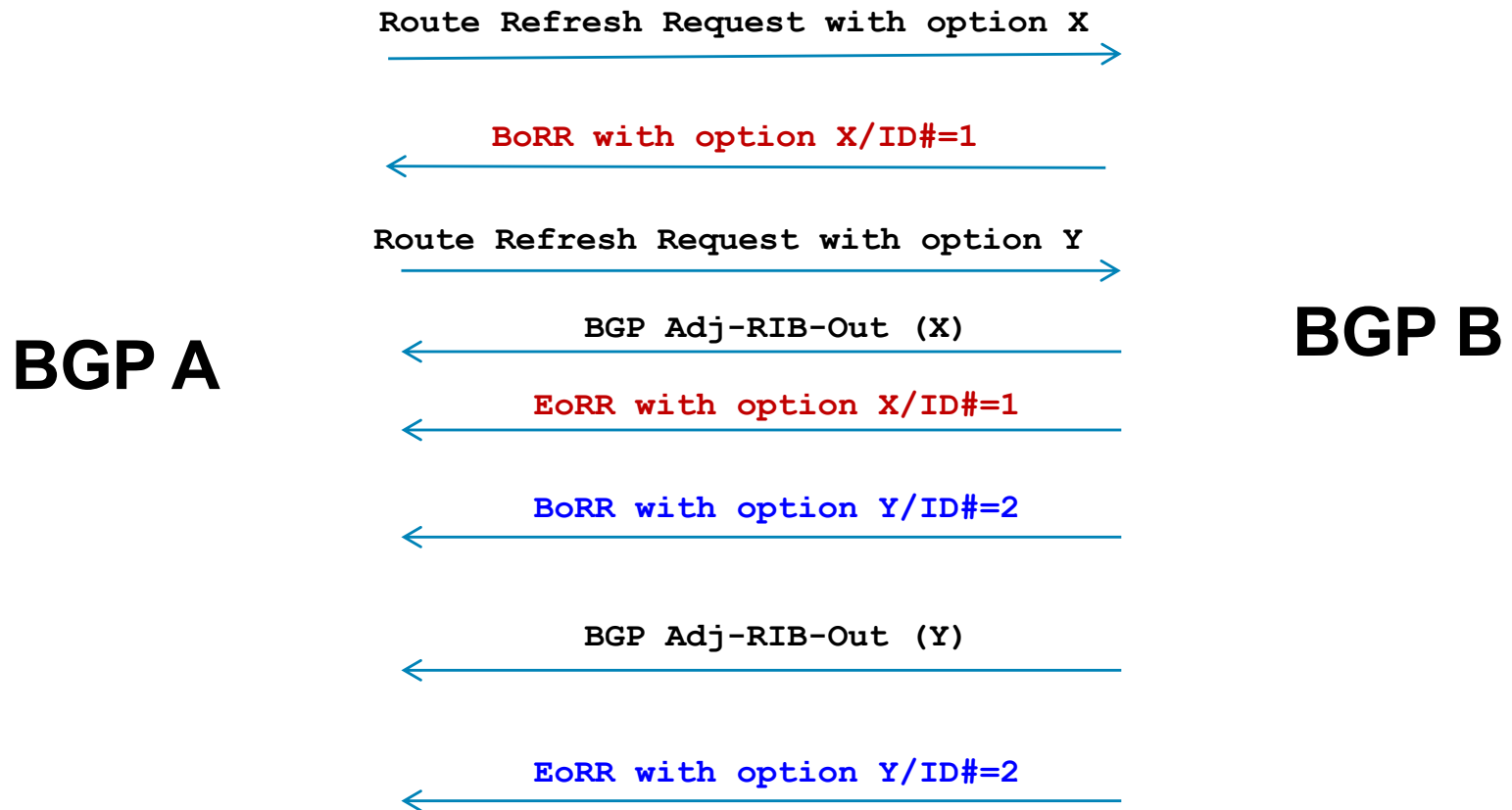
Proposed Solution

- Enhance the route refresh message to allow **options** (basically one-time filters) to be added by the requesting BGP speaker
- Filters can be specified along with existing route refresh enhancements – ORF, BoRR, EoRR
- Filters can be OR'ed and AND'ed
- Future options/filters can be added to the proposed feature without requiring new capabilities

Handling Multiple BoRR/EoRR Transactions

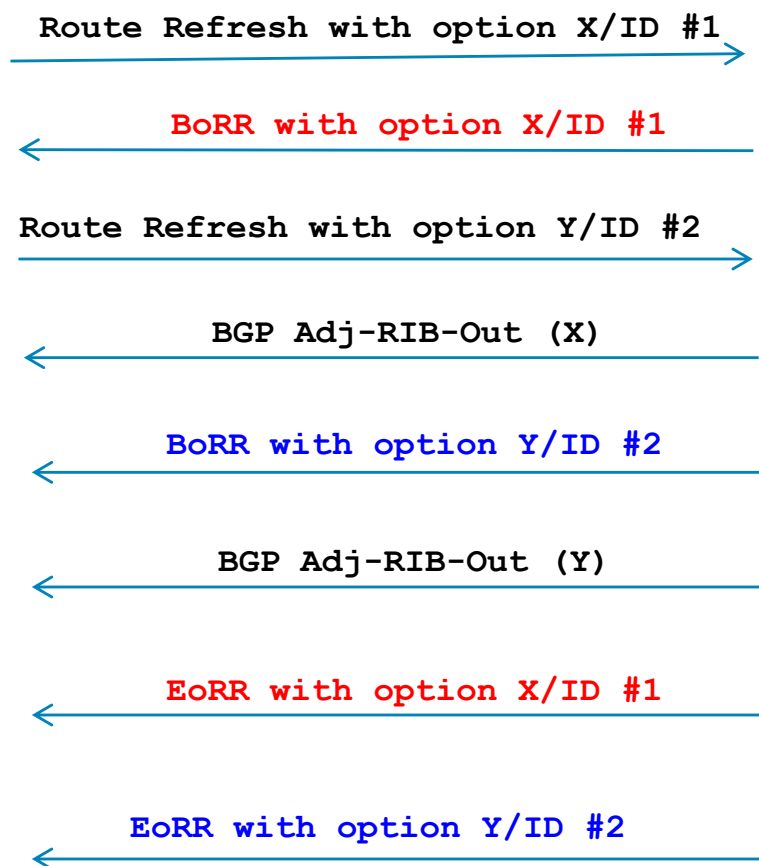
- BGP speaker may send a route refresh request with differing options without waiting for EoRR of the previous one
- To properly process BoRR and EoRR from such requests, the BGP speaker servicing the request will include the options with the BoRR and EoRR messages and a strictly monotonously increasing Refresh ID#. It **may** interleave the BoRR/EoRR or serialize the requests
- The requesting BGP speaker will use the BoRR to select matching routes to be marked stale
- The requesting BGP speaker will then use the EoRR with options to select matching stale routes to be purged

Multiple BoRR/EoRR Transactions Serial



Multiple BoRR/EoRR Transactions Interleave

BGP A



BGP B

Call for adoption

