

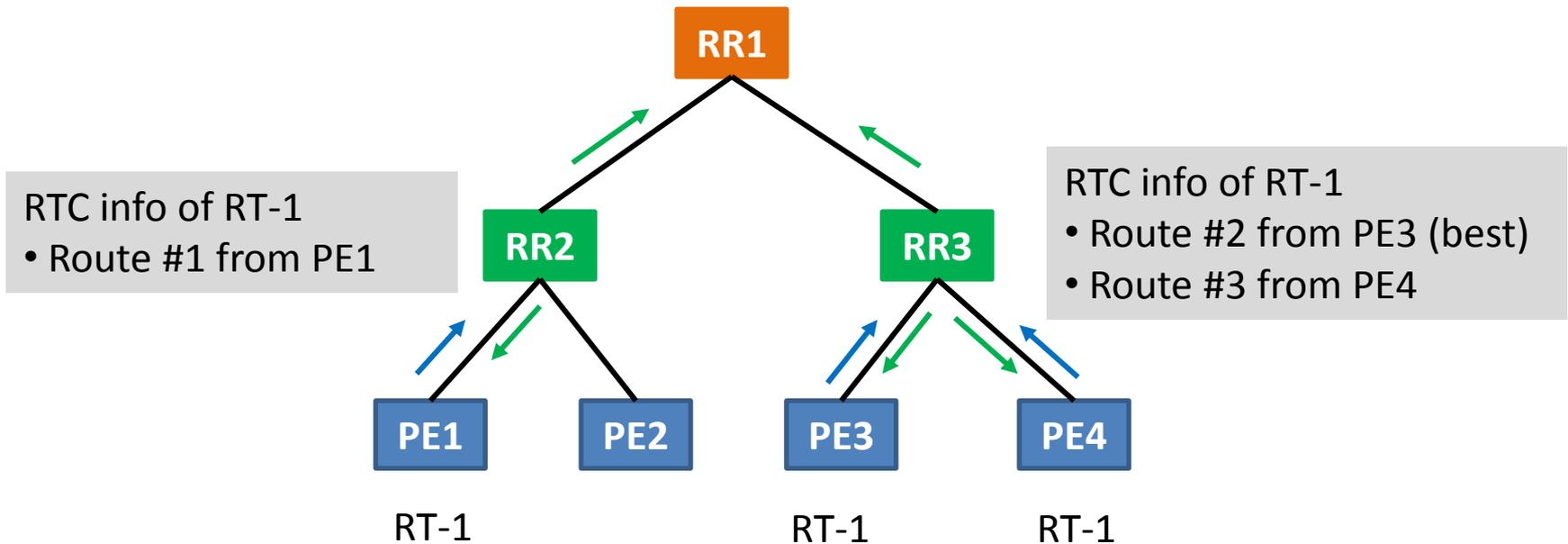
Extensions to RT-Constrain for Hierarchical RR Scenario

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Problem Statement

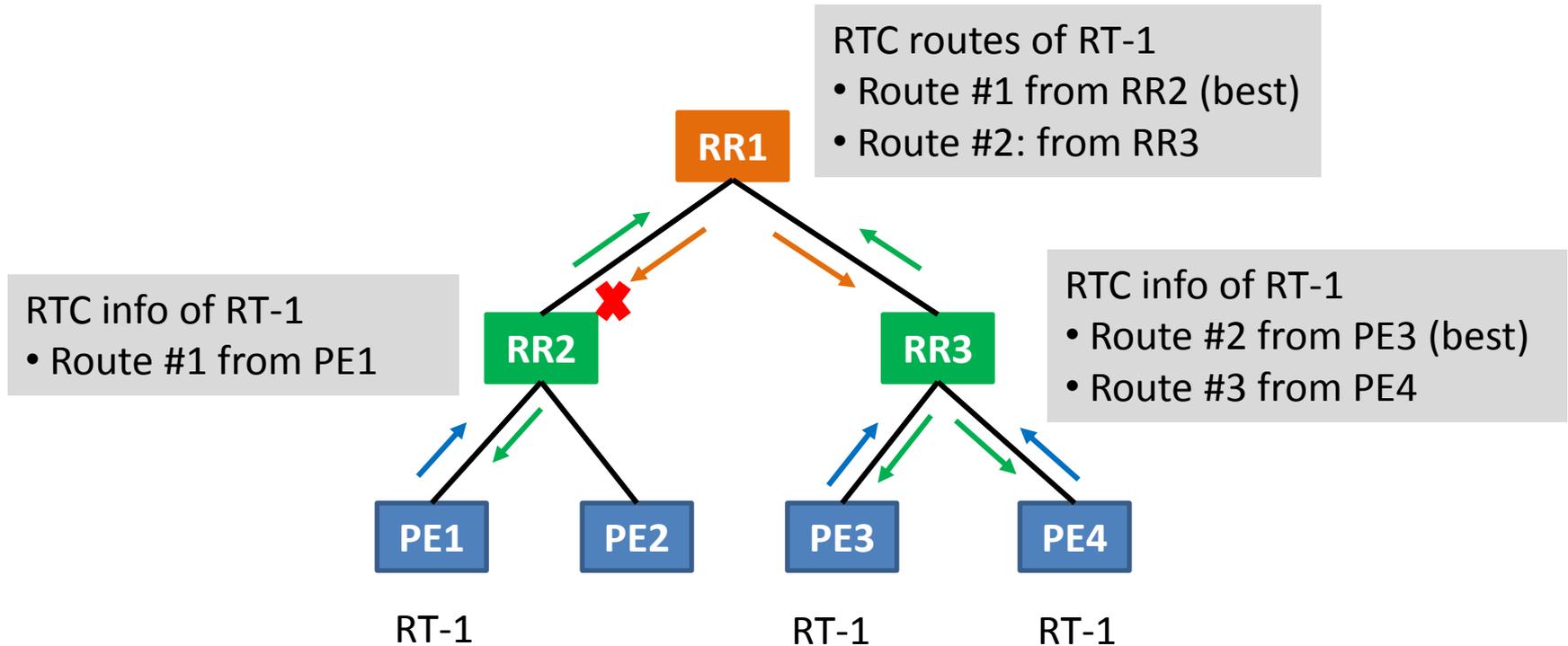
- RFC 4684 specifies rules for RT membership information advertisement
 - To build a VPN route distribution graph
- In hierarchical RR scenario, with current rules the route distribution graph can not be built correctly

Typical Scenario



- RR2 and RR3 select the best RTC route and advertise it to RR1
 - Create CLUSTER_LIST and insert its own CLUSTER_ID

Typical Scenario



- RR1 selects the best RTC route (route #1 from RR2) and advertise to RR2 and RR3
- RR2 detects its own CLUSTER_ID in the RTC route, **discard it**
- RR2 will not advertise VPN routes with RT-1 to RR1

Proposed Solution

- The advertisement rule of RT membership info needs to be modified
 - The objective of RTC is to build a **complete** route distribution graph
 - When advertising an RT membership NLRI to an RR client, if the best path according to RFC 4271 is the path received from this client, and there are alternative paths received from other peers, the **most disjoint alternative path** SHOULD be advertised to this client
 - Most disjoint alternate path:
 - The CLUSTER_LIST and ORIGINATOR_ID attributes are different from those of the best path

Received Comments

- The problem scenario is acknowledged
- The solution space needs more consideration
 - The proposed ‘advertise alternate path’ should be generalized to all iBGP peers, not just to RR clients
 - ‘Add-paths all’ among RRs may be another possible solution
 - Sending default RT from higher RRs to lower RRs
- More discussion about the solution is needed

Next Steps

- Continue solution discussion in WG
- Revise the solution section to reflect the consensus
- Then WG adoption?