

Updates and Discussion on VPN Prefix ORF Solutions

[draft-wang-idr-vpn-prefix-orf](#)

[draft-wang-idr-vpn-routes-control-analysis-04](#)

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Interim before IETF 112, Oct. 2021

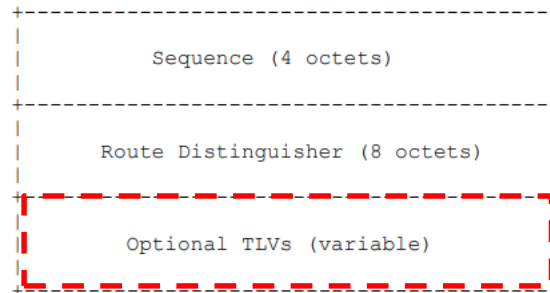
Motivation of This Presentation

- ✓ Describes the updates on the previous RD-ORF solutions
- ✓ Reaches consensus on the proposed solutions
- ✓ Forwards the updated solution draft(if necessary, also the scenario draft)

Updates Contents

- August 23 Interim meeting discussion in detail the scenarios and solutions for excessive VPN prefixes control, see the presentation material [here](#)
- IDR experts have consensus on the problems.
- The solution should be updated again, based on the previous discussion on WG mail list, and the suggestions from Keyur and Susan after offline discussion.
- Besides the RD information, other additional information should also be included to aid the finer control of the excessive VPN prefixes.

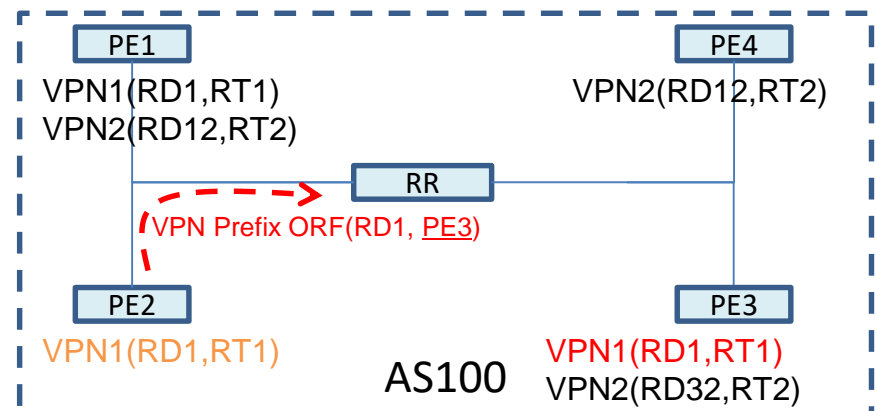
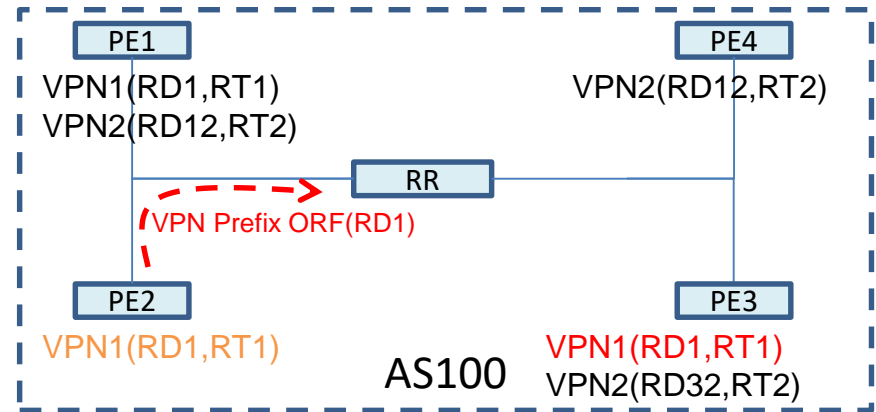
Updated “VPN Prefix ORF” Encoding



- We add the “Optional TLVs” field within the previous “RD-ORF” encoding.
- Currently, two “Optional TLV” are defined in this document:
 - Source PE TLV: To indicate the source PE of the excessive VPN Prefix
 - Route Target TLV: To indicate the route targets that associated with the excessive VPN Prefix

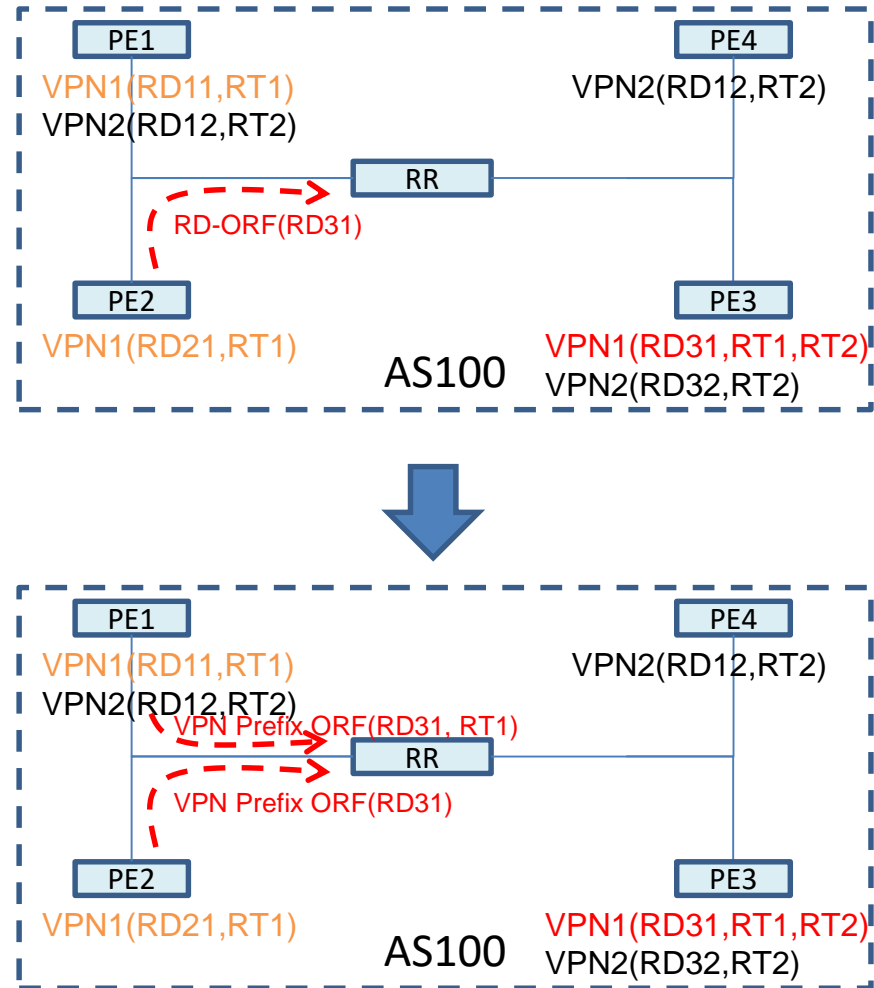
The application of “Source PE TLV”

- In “Intra-AS, Unique RD scenario”, If PE2 send out “VPN Prefix ORF” message, which include only the RD(RD1) information, the RR will filter all of the VPN routes that associated with RD, regardless its sources.
- The communication between PE1 and PE2 for VPN1 will also be broken.
- If we include also the “Source PE” information, that only the excessive VPN routes from PE3 that has RD1 attached is filtered, which is the reasonable solution.



The application of “Route Target TLV”

- In “Intra-AS, Multiple RTs scenario”, If the excessive VPN routes with the same RD(RD31) is associated with several RTs(RT1, RT2), and only some RTs lead the VRF overflow(PE1, VPN1), the overwhelmed PE(PE1) can't send out the “VPN Prefix ORF” only until all VPN(VPN1, VPN2) that import such routes are overflowed.
- If we include also the “Route Target” information, the PE(PE1) can send out such information quickly and let the RR do the filter work instead.



Update Summary

1. The additional information can give more flexibilities for the devices(PE/RR) to finely control the excessive VPN routes.
2. The communication disruption among the PEs are reasonable controlled.
3. Other additional information can also be added later if necessary.

Further Action

- Comments?
- Is it the right time to adoption the updated draft?

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