

Carrying VTN-ID in IPv6 Extension Header

draft-ietf-6man-enhanced-vpn-vtn-id-00

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Background and Current Status

- This document introduces a mechanism to carry VTN information in IPv6 HBH extension header
 - Used by transit nodes on the path to steer packets to the set of network resources allocated to a VTN
- The document was adopted before IETF 113
 - Valuable comments and discussion during the adoption call
 - Many of the comments have been resolved in the mail list discussion
- The authors would like to pick some of the comments for discussion and hear further feedbacks from the WG
 - Then the document will be updated accordingly

Comment #1: The Terminology

- Whether call it VTN resource ID, or NRP ID, or something else?
- According to the terminology definitions in TEAS
 - NRP (Network Resource Partition) is a set of network resources allocated in the network
 - VTN (Virtual Transport Network) is a virtual underlay network consisting of a set of network resources and associated with a network topology
- It seems VTN resource ID and NRP ID refer to the same thing
 - TEAS WG is working on the alignment of the terminologies, this document could follow the decision made in TEAS
- It also depends on whether and how we want to extend the semantics and format of this ID
 - See the discussion in following slides

Comment #2: Processing Procedures

- If a node skips the HBH EH, it cannot apply the policies required for the VTN
- If strict conforming to VTN specific processing is required, it is recommended to make sure all the network nodes involved in a VTN can process the HBH EH and the VTN option
- The capability of the network nodes can be obtained via management system or control plane advertisement
- How to process the packet if a transit node does not have the network resource matching the VTN?
- Consider to use a Flag to determine the forwarding behavior in this case
 - When the flag is set, it indicates packet SHOULD be dropped when there is no matching resources for the VTN
 - When the flag is not set, it indicates packet SHOULD be processed using the default set of resources, i.e. fall back to best effort processing

Comment #3: the Format of VTN Option

- Suggest to make this “Tag” generic and flexible
 - In addition to network slicing, other use cases would also benefit from it
 - Allow variable length for this 'tag'
 - Introduce structure to this HBH option
- Some considerations about the semantic and format
 - This ID is considered as a network-wide identifier
 - Align with draft-ietf-6man-hbh-processing in the new HBH option design
 - Straight forward to process
 - The option size should not extend beyond the capability of network node’s forwarding plane
 - Provide reasonable extensibility to this Option
 - Option Data Len field: can be used to indicate variable length of the value field
 - Introduce a Flag field: Allow to use flags to indicate the behavior when processing the ID field
 - Introduce a Reserved field: Leave some room for future extensions
 - ID field: Carry the ID with variable length?

Next Steps

- Collect feedbacks from the WG on the above discussion points
- Update the document accordingly

Thank You