OSPF Extensions for Flow Specification

draft-liang-ospf-flowspec-extensions-03

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Status of this I-D

◆ First presented in IETF 91, Honolulu meeting
  ➢ Need to solicit operators’ comments:
    we’ve discussed with some operators, they’re very interested in this topic.
  ➢ Relation with [draft-shrivastava-ospf-flow-spec-01]:
    we’ve discussed with the authors of this draft. Both of us agree on the use cases and requirements. But we haven’t reached an agreement on some details of protocol extensions so far.

◆ The update compared to v-02
  ➢ Add “Policy Configuration”: deploy local filtering polices on CE or PE for security reasons.
  ➢ Clarify “FlowSpec Opaque LSA” is Type-11 Opaque LSA which is not flooded into Stub and NSSA areas.
  ➢ Clarify “Redirect” action
OSPF Extensions for FlowSpec Info
------ OSPFv2

This document defines a new OSPF flow specification Opaque LSA encoding format that can be used to distribute traffic flow specifications. This new OSPF FlowSpec Opaque LSA is extended based on [RFC5250].

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Figure 1: FlowSpec Opaque LSA

- Opaque type: OSPF FlowSpec Opaque LSA (Type Code: TBD1)
This document defines a new OSPFv3 flow specification LSA encoding format that can be used to distribute traffic flow specifications. This new OSPFv3 FlowSpec LSA is extended based on [RFC5340].

![Figure 2: OSPFv3 FlowSpec LSA]

- LSA Function Code: FlowSpec LSA (Type Code: TBD2)
OSPF Extensions for FlowSpec Info

The FlowSpec Opaque LSA carries one or more FlowSpec Filters TLVs and corresponding FlowSpec Action TLVs.

Figure 3: OSPF FlowSpec Filters TLV

- Type: the TLV type (Type Code: TBD3)
- Filters: the same as "flow-spec NLRI value" defined in [RFC5575, etc.]

Table 1: Traffic Filtering Actions in [RFC5575, etc.]

<table>
<thead>
<tr>
<th>type</th>
<th>FlowSpec Action</th>
<th>encoding</th>
</tr>
</thead>
<tbody>
<tr>
<td>0x8006</td>
<td>traffic-rate</td>
<td>2-byte as#, 4-byte float</td>
</tr>
<tr>
<td>0x8007</td>
<td>traffic-action</td>
<td>bitmask</td>
</tr>
<tr>
<td>0x8108</td>
<td>redirect</td>
<td>4-byte IPv4 address, C flag</td>
</tr>
<tr>
<td>0x800b</td>
<td>redirect</td>
<td>16-byte IPv6 address, C flag</td>
</tr>
<tr>
<td>0x8009</td>
<td>traffic-marking</td>
<td>DSCP value</td>
</tr>
</tbody>
</table>
OSPF Extensions for FlowSpec Info

OSPF routers may use Router Information (RI) LSA [RFC4970] for OSPF features advertisement and discovery. The FlowSpec info requires an additional capability for the OSPF router.

<table>
<thead>
<tr>
<th>Bit</th>
<th>Capabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>TBD4</td>
<td>OSPF FlowSpec</td>
</tr>
<tr>
<td>7-31</td>
<td>Unassigned (Standards Action)</td>
</tr>
</tbody>
</table>
Next Step

• This draft has been sufficiently discussed in the past meeting and all received comments have been addressed.

• Accepted as WG doc?
Thank You!