draft-ppsenak-ospf-te-link-attr-reuse-04

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Draft Status

- Presented at IETF 93, IETF94, IETF95, IETF96, IETF97
- Problem is now understood and acknowledged by large community of vendors and providers
- Good discussion already taken place on the WG list
ISIS Applicability

• The problem has been acknowledged in ISIS as well

• It is desirable to address the problem in both OSPF and ISIS in a similar way.
  • Encodings may differ and be protocol specific

• Draft submitted in ISIS WG
  • draft-ginsberg-isis-te-app-00.txt
Advertisement of Per Application Values

- We are making link attributes available for other applications (SR, LFA, etc)
- Right time to add the support for per application values
  - No need to come back and address that problem again in the future.
- The proposed encoding in the draft avoids any replication if there is a single value of the attribute used by all/multiple applications, while allowing the per application values to be advertised if needed.
Alternative Proposal

- draft-hegde-isis-advertising-te-protocols-02
- draft-hegde-ospf-advertising-te-protocols-00
- At IETF 97 it was agreed that one proposal needs to be selected by the WG
- Both OSPF and IS-IS should select functionally equivalent proposals
Alternative Proposal(2)

- Limitations of this proposal:
  - only solves the problem of RSVP versus Segment Routing TE. It does not address any other non-TE applications - e.g. LFA, SPF based on the delay or bandwidth, or any future apps.
  - it took the approach of "indicating the protocols enabled on the link". While this may be good for RSVP, it does not work for other applications – the fact that LFA is enabled on a remote link is orthogonal to any link attribute on such link being used by LFA calculation on other nodes in the network.
  - does not support per application values.
  - Not backwards compatible
## TE Attributes and Application Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>ppsenak-ospf-te-link-attr-reuse</th>
<th>ginsberg-isis-te-app</th>
<th>hegde-ospf-advertising-te-protocols</th>
<th>hegde-isis-advertising-te-protocols</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per link application indication</td>
<td>Supported</td>
<td></td>
<td>Supported</td>
<td></td>
</tr>
<tr>
<td>Per application attribute value</td>
<td>Supported</td>
<td></td>
<td>Not supported</td>
<td></td>
</tr>
<tr>
<td>Backwards Compatibility</td>
<td>Supported (uses duplicate advertisements)</td>
<td></td>
<td>Not supported</td>
<td></td>
</tr>
<tr>
<td>Partial Deployment</td>
<td>Supported (uses duplicate advertisements)</td>
<td></td>
<td>Supported w config changes on legacy routers</td>
<td></td>
</tr>
<tr>
<td>Extensible to new applications</td>
<td>Yes</td>
<td></td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>
Next Steps

• draft-ppsenak-ospf-te-link-attr-reuse-04
  • Accept as OSPF WG item
  • Continue to evolve the document