OSPF Adjacency Suppression

draft-cheng-lsr-ospf-adjacency-suppress-01

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Introduction

- Presented at IETF 116 & 117 meeting and discussed in mailing list.

- It is to avoid the OSPF temporary blackholes during a router’s unplanned restart.

  1) Copies of LSAs generated before restart are likely to appear "newer" than LSAs initially generated after restart.

  2) The neighbors of the starting router do the route calculation using these "newer" (actually older) LSAs.

  3) This may cause temporary blackholes to occur until the starting router regenerates its own LSAs with higher sequence numbers.

Updates

- Change loopback address example to external route example.

- Some figure and text optimization.
There are two solutions currently proposed:

[A] draft-cheng-lsr-ospf-adjacency-suppress

- Restarting router notifies its neighbor to suppress adjacency.

[B] draft-hegde-lsr-ospf-better-idbx

- Neighbor router marks its LSA as stale and hold NSM.

There are two solutions currently proposed:

[A] draft-cheng-lsr-ospf-adjacency-suppress

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## Comparison

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<tbody>
<tr>
<td>OK</td>
<td>If some routes do not exist after restarting, neighbor router has no chance to mark the database LSA as stale. The solution does not work in this scenario.</td>
<td></td>
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| Scenario2: Remote neighborA--B---C | OK | Because the sequence of the flooding process cannot be controlled precisely, remote neighbor still has a window for black hole. |

<table>
<thead>
<tr>
<th>Mechanism Concept</th>
<th>Restarting router take control.</th>
<th>Neighbor router take control.</th>
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<tr>
<th>Impact on Neighbor State Machine</th>
<th>N/A</th>
<th>Changing the core process of NSM. In case of failure, the neighbor state will remain unestablished.</th>
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<tr>
<th>Scope of Influence</th>
<th>Only during unplanned restarting. No interaction with other features</th>
<th>All the features related to neighbor establishment, including GR, NSR, link failure recovery, etc.</th>
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<th>Maturity</th>
<th>Similar mechanism is widely used in IS-IS [RFC5306].</th>
<th>N/A.</th>
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<th>Other Issues</th>
<th>N/A</th>
<th>Next Page</th>
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New Issues in the latest version of draft-hegde-lsr-ospf-better-idbx

- The timing of marking stale is after receiving LSA request. But the neighbor may have been in FULL state before then.

- The condition of removing stale is receiving update with higher sequence. If the aging process by restarting router happens, LSA can not be removed from the list.
Next Steps

- Mechanism is mature. Running code has been tested in lab.
- Ask for WG adoption.
- Any questions or comments are welcome.
Thanks