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draft-ppsenak-lsr-igp-ureach-prefix-announce

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Context

- Presented previously at IETF 114, IETF 115
- Draft describes how to announce the prefix unreachability in IGPs
- Using mostly an existing protocol mechanisms
- Backward compatible solution (unlike the alternative proposals)

Signaling UPA Origin

- We still rely on prefix metric larger than 0xFE000000 (ISIS), or equal to LSInfinity (OSPFv2/OSPFv3) to maintain backward compatibility
- Handling of such metrics is clearly specified in the existing RFCs
- Allows “advertisement of a prefix for purposes other than building the normal IP routing table”
- Allows UPA to be deployed incrementally

Signaling UPA Origin (cont.)

- Explicit Signaling of UPA origin was added
- Two origins are defined
  a) Loss of reachability due to unplanned event
  b) Loss of reachability due to planned event
- Used to indicate the “other purpose” for which the prefix was advertised - e.g., unreachability.
- Treatment of the U-Flag and UP-Flag on the receiver is optional and outside of the scope of the draft.

Signaling UPA Origin in ISIS

- Two new bits in the IPv4/IPv6 Extended Reachability Attribute Flags [RFC7794] are defined:
  - U-Flag: - Unreachable Prefix Flag
  - UP-Flag: - Unreachable Planned Prefix Flag

- The prefix that is advertised with U or UP flag MUST have the metric set to a value larger than 0xFE000000.

Signaling UPA Origin in OSPFv2

- Two new bits in Flags field of the OSPFv2 Extended Prefix TLV [RFC7684] are defined:
  - U-Flag: - Unreachable Prefix Flag
  - UP-Flag: - Unreachable Planned Prefix Flag

- The prefix that is advertised with U or UP flag MUST have the metric set to a value of LSInfinity.

Signaling UPA Origin in OSPFv3

- A new Prefix Attribute Flags sub-TLV is defined as a sub-TLV of the following OSPFv3 TLVs as defined in [RFC8362]:
  - Intra-Area Prefix TL, Inter-Area Prefix TLV, External Prefix TLV
- Two new bits in OSPFv3 Prefix Atribute Flags are defined:
  - U-Flag: - Unreachable Prefix Flag
  - UP-Flag: - Unreachable Planned Prefix Flag

- The prefix that is advertised with U or UP flag MUST have the metric set to a value of LSInfinity.

UPA and Area Partition

- Text has been added in the “Deployment Considerations” section to clarify that UPA was not meant to address the area partition scenario
- UPA does not make area partition any worse
- UPA may help with area partition under certain circumstances

Intended Status

- Draft was originally published as Informational
- In v2 it has changed to Standard Track
  - Added new signaling
  - Standard logic for propagation needs to be altered for UPA

Next Steps …

- Comments are welcome
- Sufficient interest to address the problem in hand
- Implementation is available
- Ask is for WG to adopt this draft and continue the work