Refresh-interval Independent RSVP-TE FRR
draft-chandra-mpls-ri-rsvp-frr-02

Chandrasekar Ramachandran (csekar@juniper.net)

Ina Minei (inaminei@google.com)

Dante Pacella (dante.j.pacella@verizon.com)

Tarek Saad (tsaad@cisco.com)

Ebben Aries (exa@juniper.net)

Presenter: Vishnu Pavan Beeram (vbeeram@juniper.net)

Background

- Draft Focus:
  - Discusses "Refresh Interval Independent RSVP (RI-RSVP)" Fast-Reroute procedures
    - Enhancements to "Facility Protection" [RFC4090] procedures
    - Notion of RI-RSVP is discussed in [RSVP-TE-SCALING-REC] <draft-ietf-teas-rsvp-te-scaling-rec>
- Draft introduced at IETF-91 [follow-ups in IETF-92, -93, -94]
  - Subsequent Revisions (including <draft-name> change) based on feedback received
- MPLS RT Review [-02 Version]
  - 3 Reviews
    - Reviewers: Guijuan Wang (Jean), Lizhong Jin, Mustapha Aissaoui

MPLS RT Review - [Reviewer 1]

- Jean's review comments:
  - Combine all dependencies on other drafts in "Pre-requisites" section before discussing solution. Yes, will add a new section.
  - Define a new default interval for Remote NodeID hello.
    - This is defined in [RSVP-TE-SCALING-REC].
  - Clarify the "time out" described in removing bypass association object. Agreed, reference to "time out" is not necessary in Section 4.1.1; will remove it
  - Conflict between Sections 4.2.2 & 4.2.3 on whether router should distinguish node failure from link failure. Agreed, it is not required; will update the draft
  - Is new capability flag required?
    - Not required. RI-RSVP flag defined in [RSVP-TECALING-REC] will suffice.
  - Too many failure cases described, they can be categorized. Yes, will do.

MPLS RT Review - [Reviewer 2]

- Lizhong's review comments
  - Clarify the "time out" described in removing bypass association object. Agreed, reference to "time out" is not necessary in Section 4.1.1; will remove it
  - TTL value for Remote PathTear not specified. Yes, will explicitly state that TTL must be set to 255.
  - How state is deleted on router between PLR and NP-MP not documented. Agreed, will include text in relevant section.
  - What is the impact on FRR for bidirectional LSPs specified in draft-ietf-teas-gmpls-fast-reroute?
    - This draft is specific to unidirectional packet LSPs [RFC4090]; considerations for bidirectional LSPs will need to be done separately.

MPLS RT Review - [Reviewer 3]

- Mustapha's review comments
  - Draft does not reduce triggered messages for backup LSP signaling.
    - Once the restriction of short refresh time out is removed, the backup LSP signaling may occur at a pace that does not place undue load on any router
    - Ability to operate at arbitrarily long refresh timer is the key because FRR may be temporary & LSPs are likely to undergo make-before-break
  - Methods in draft rely on Message-ID-ACK at scale, which triggers more churn if messages not acknowledged
    - This problem has been addressed by "Per-Peer flow-control" technique specified in [RSVP-TE-SCALING-REC]

MPLS RT Review - [Reviewer 3] (contd.)

- **Mustapha**'s review comments (contd.)
  - With the use of an independent timer (not refresh timer) to clean up stale state, Conditional PathTear may not be required
    - Such configured timers though appropriate at some scale may not be so when scale increases
  - Such configured timers are being used in production networks
    - Lack of predictability at different scale is known to make n/w management complex
  - Path-Tear Procedures defined in the draft are complex
    - Conditional PathTear is a fully backward compatible extension to PathTear with simple processing rules; Remote PathTear is a simple mechanism that enables the use of a normal PathTear to remotely tear down state on Merge Point.

Dependency on [SUMMARY-FRR] draft

- Merge Point determination uses procedures defined in [SUMMARY-FRR] (<draft-mtaillon-summary-frr-rsvpte>)
  - If [SUMMARY-FRR] ends up using different objects from the one used presently, [RI-RSVP-FRR] will also be updated

Next Steps

- Update the draft incorporating RT reviewers' comments
  - ETA - Within two weeks after IETF 95
- Request further review
- Request WG adoption