RSVP-TE Summary Fast Reroute Extensions
draft-mtaillon-rsvpte-summary-frr-01

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Outline

• Updates
• Review of requirements and scope
• Summary
• Next Steps
Updates from -00

• New co-authors joined the draft

• Updates to SUMMARY_FRR_BYPASS_ASSIGNMENT subobject to carry post FRR Summary MESSAGE_IDS
Review of requirements and scope

Requirements:

- Fast reroute [RFC4090] widely deployed in packet RSVP-TE networks
- Under scale, Point of Local Repair (PLR) and Merge Point (MP) may host hundreds-of-thousands of LSPs
- In event of failure, the PLR and MP’s control planes become overwhelmed with control plane FRR processing (done per LSP)
- While message bundling helps, transmitting and processing full RSVP messages in a Bundle messages after FRR does not scale
- Motivation to allow FRR control plane procedures between PLR and MP to be signaled and processed on groups of LSP

Scope:

- Signaled using RSVP-TE [RFC3209]
- Using RSVP-TE FRR procedures [RFC4090]
- RSVP Srefresh procedures [RFC2961]
1. PLR creates and manages RSVP-TE Summary FRR LSP groups and shares them with MP via signaling RSVP PATH RRO

   - New SUMMARY_FRR_BYPASS_ASSIGNMENT subobject (added to PATH/RESV RRO), contains:
     - Summary FRR Group Identifier and post FRR MESSAGE_IDs

2. MP learns Bypass Group Identifier, acknowledges via signaling (RESV RRO)

   - MP includes post FRR MESSAGE_ID in RESV

3. PLR receives acknowledgement from MP, handshake complete
1. PLR notifies MP with list of affected Summary FRR Group Identifiers via tsingle RSVP PATH message
   - New SUMMARY_FRR_BYPASS_ACTIVE object contains List of affected Summary FRR Group Identifiers

2. MP processes normal FRR handling for each LSP identified in Bypass Active Object (RSVP_HOP is copied from BAct obj)

3. MP copies PATH Bypass Active Object and signals RESV message

4. Srefreshes between MP and PLR proceed using MESSAGE_IDS exchanged prior to failure
Summary FRR procedures (recap)

Existing

RSVP-TE FRR

Ingress/Egress

A1

A2

Ak

Egress/Ingress

F1

F2

Fk..

Bypass 1

Path (n1)

Resv (n1)

Bypass 2

Path (n2)

Resv (n2)

Proposed

RSVP-TE Summary FRR

Ingress/Egress

A1

A2

Ak

Egress/Ingress

F1

F2

Fk..

Bypass 1

Path (1)

Resv (1)

1 Path/Resv sent over bypass per LSP group

Bypass 2

Path (1)

Resv (1)

n1: number of LSPs rerouted over bypass 1

n2: number of LSPs rerouted over bypass 2

Srefresh
Next Steps

• Request to make this draft a WG document
• Welcome comments from WG
Thank You.