1:n protection for MPLS-TP

draft-ezy-mpls-1toN-protection
eosborne@cisco.com
zhang.fei3@zte.com.cn
yaacov.weingarten@nsn.com

Agenda

- Overview
- Motivation
- Open question
- Next steps

Overview

- 1:1/1+1 PSC exists, almost RFC (draft-ietf-mpls-tp-linear-protection)

- Provides messaging to coordinate protection state at two ends of a protection domain, similar to APS/G.8031

- This draft extends PSC to support 1:n
  - Adds necessary pieces for 2-phase support

Motivation

- 1:1/1+1 PSC is progressing through final reviews before becoming an RFC
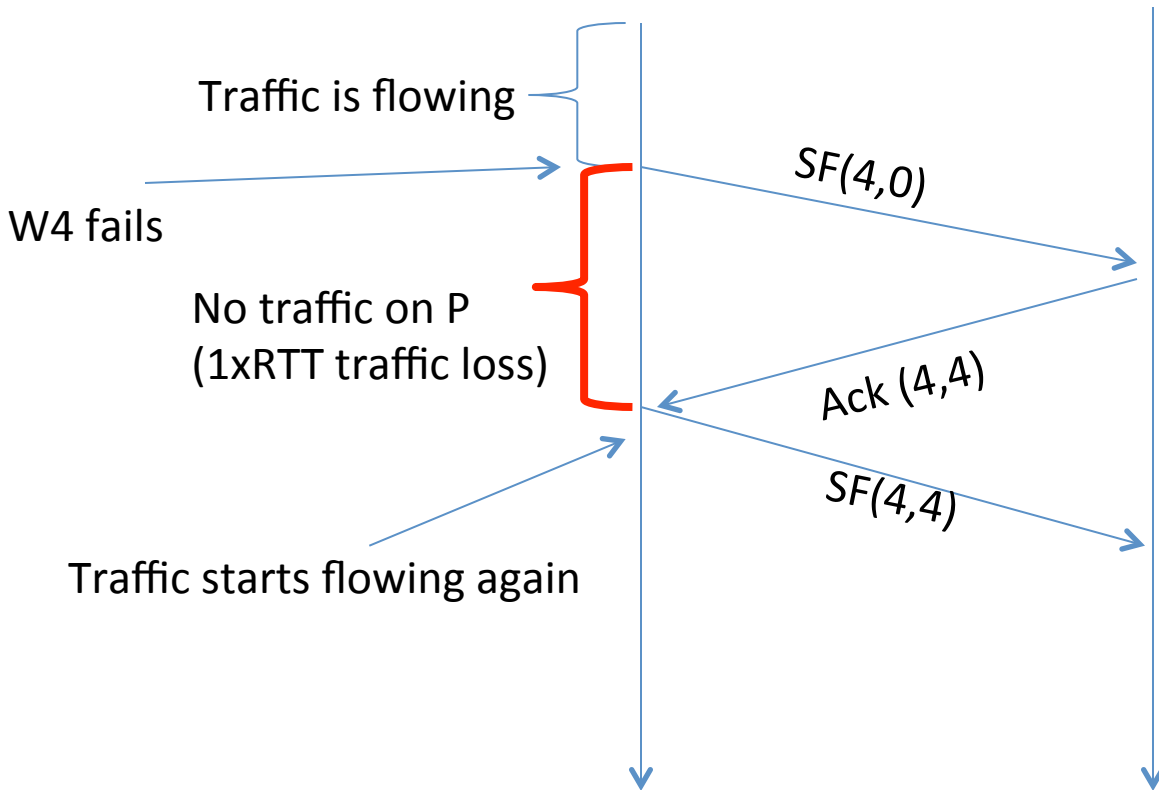- 1:n is required per rfc5654 R67 (2.5.1.1)

Open question

- 1:1/1+1 is single-phase
- 1:n must be multiphase
  - Needs to ensure both ends of the protection domain are protecting the same thing
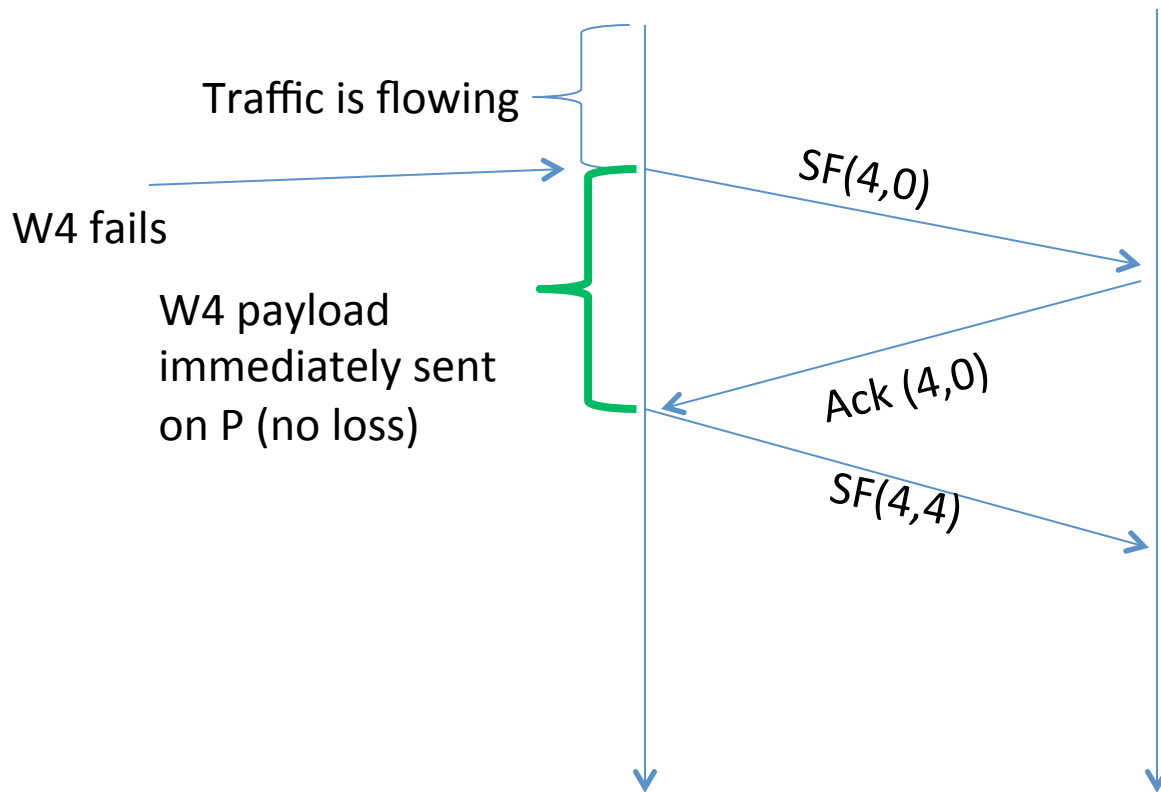
Open question

- In traditional transport networks, switch acts as a lock (cannot send newly protected traffic until the 2-phase operation is complete).
  - Necessary because the payload could be misconnected
- In traditional MPLS-TE networks, no need to use switch operation as a lock
  - Payload beneath W or P LSP label is a label the Rx node already knows
  - Rx node will always have an ILM entry for a label stack and thus will never misconnect
  - Interim asymmetric protection means at least there's *some* protection

Two-phase with lock

Traffic is flowing

W4 fails

No traffic on P
(1xRTT traffic loss)

Traffic starts flowing again

SF(4,0)

Ack (4,4)

SF(4,4)

Two-phase without lock

Traffic is flowing

W4 fails

W4 payload immediately sent on P (no loss)

SF(4,0)

Ack (4,0)

SF(4,4)

Open question

- Are there scenarios where a lock is necessary?

(would like to discuss on the list)

Next steps

- Comments welcome
- WG draft?