

RSVP-TE Extensions in Support of Proactive Protection

TEAS & CCAMP WG, IETF106, Singapore

draft-lin-ccamp-gmpls-proactive-protection-00

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Overview of This Draft

➤ Background:

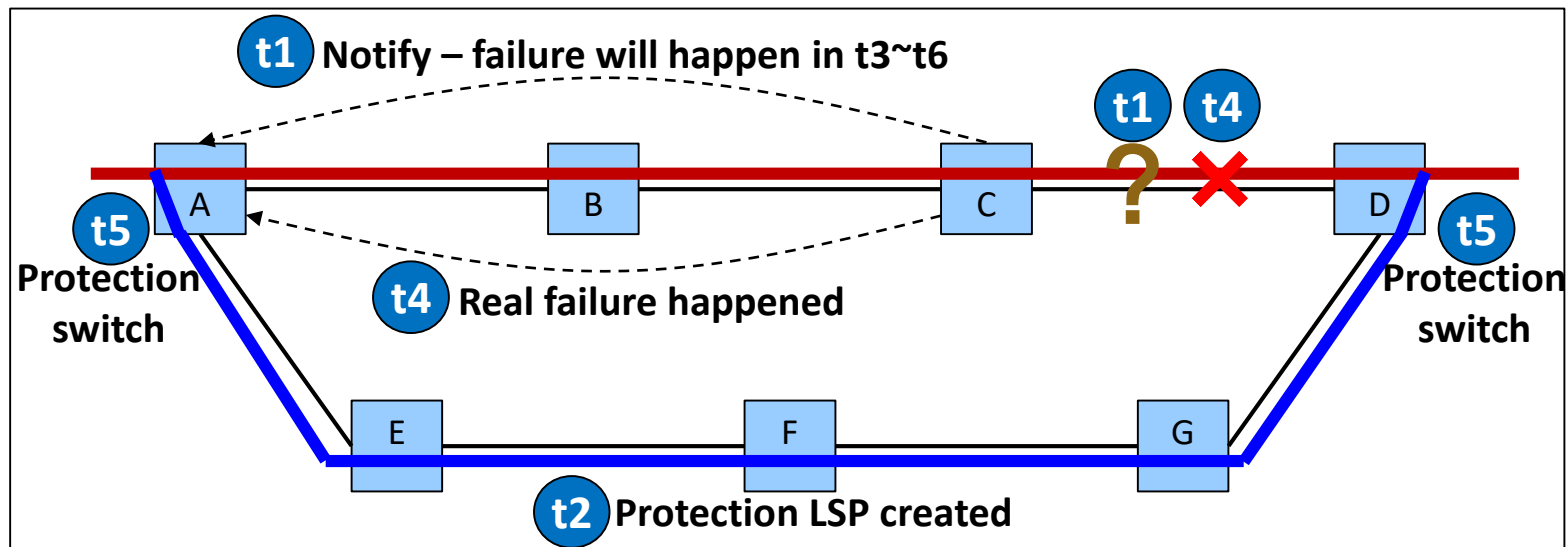
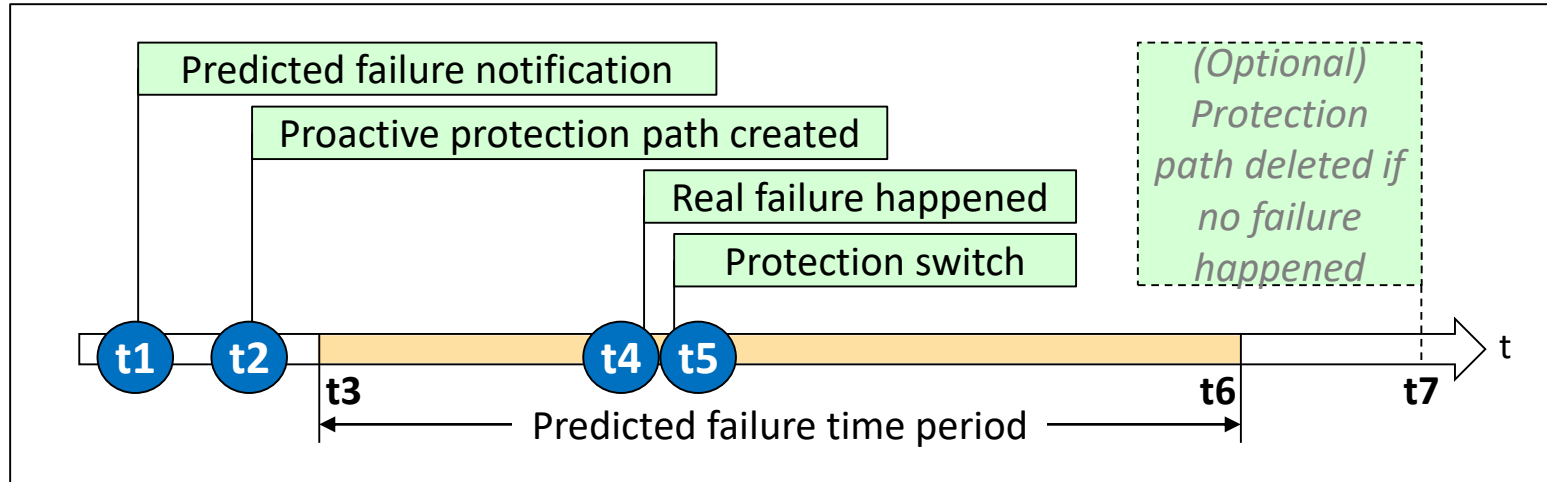
- There could be some indications before a physical failure happens in a network
- Predicting a physical failure is possible

➤ Main ideas of this draft:

- Proposing a new protection method called **Proactive Protection**, i.e., creating protection LSP when predicting a failure on the working LSP will happen (before real failure happens)
 - **RSVP-TE** protocol extensions **for Proactive Protection**
 - **RSVP-TE** protocol extensions **for notification of a predicted failure**

(Note: Not sure whether this draft will end up in CCAMP or TEAS, will be presented in both WGs)

Overview of Predicted Failure & Proactive Protection



Benefits

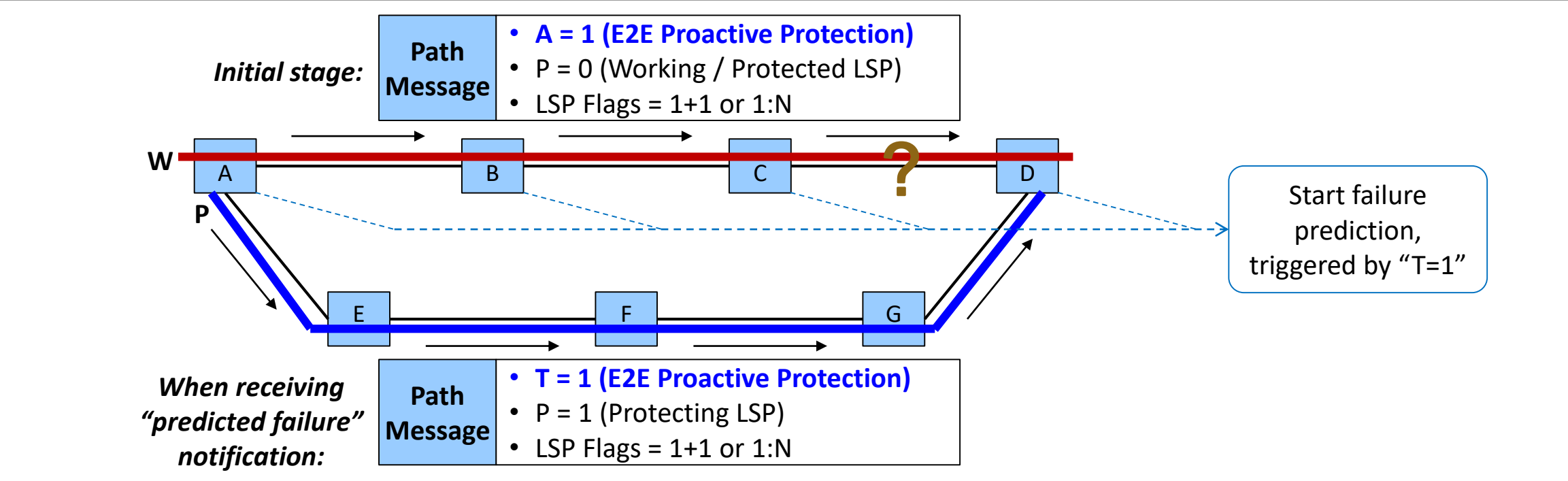
- Protection switch is as **fast** as traditional 1+1 or 1:1
- Much **higher resource usage** than 1+1 or 1:1 (protection LSP created only when potential failure is predicted)

Protocol Extension 1: E2E Proactive Protection

PROTECTION Object

- **T (Triggered E2E Proactive Protection):**
 - **T = 1:** E2E Proactive Protection is required
 - When **T = 1**, **LSP Flags** SHOULD be 1+1 or 1:N

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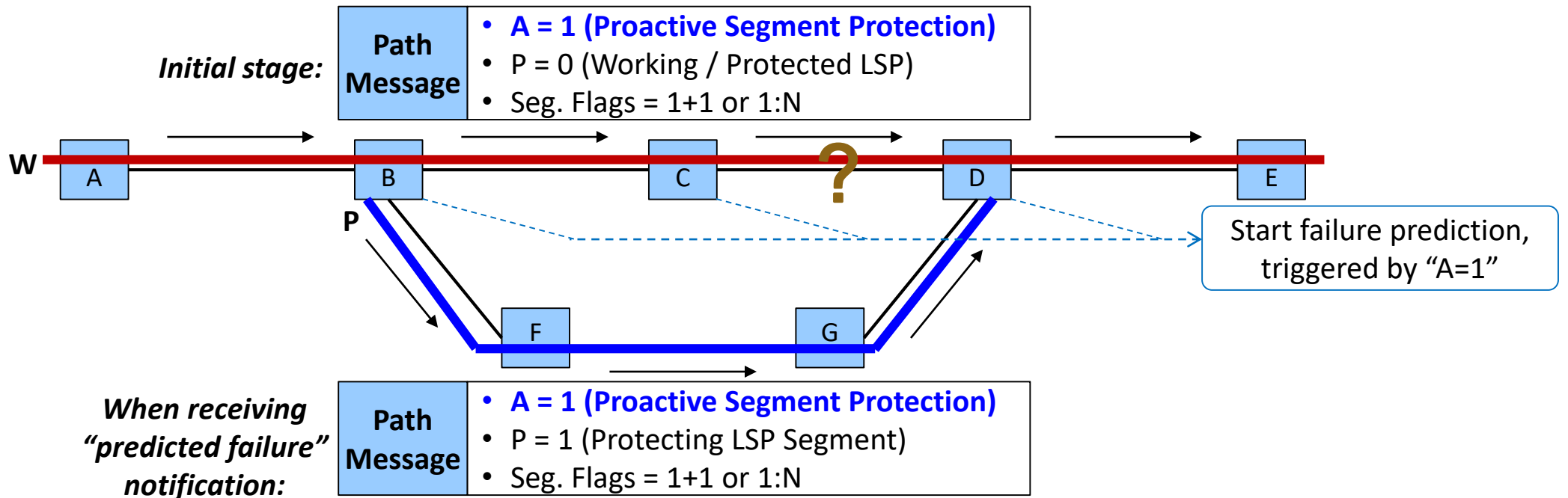
Protocol Extension 2: Proactive Segment Protection

PROTECTION Object

➤ A (proActive Segment Protection):

- **A = 1**: Proactive Segment Protection is required
- When **A = 1**, Seg. Flags SHOULD be 1+1 or 1:N

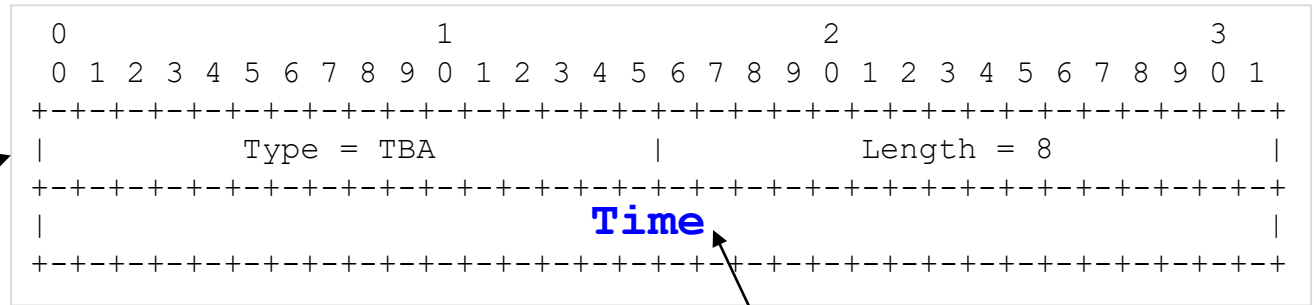
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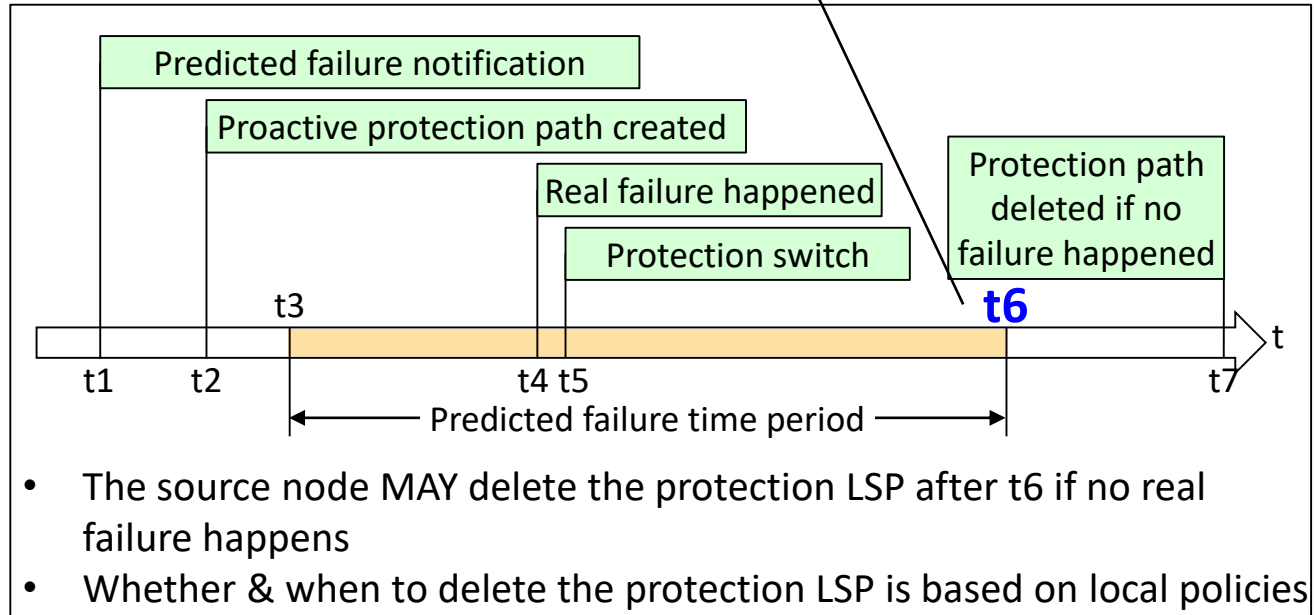
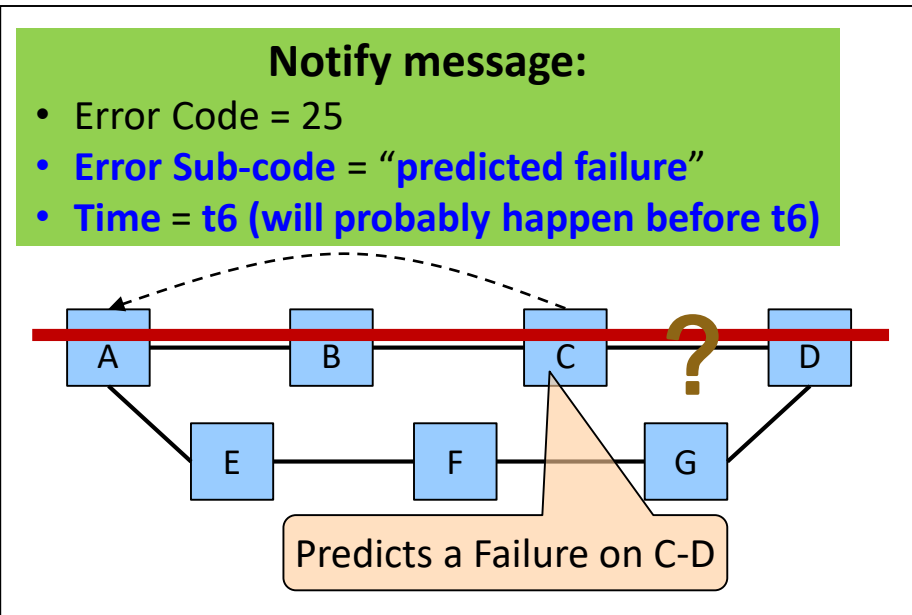
Protocol Extension 3: Predicted Failure Notification

ERROR_SPEC Object

- Error Code = 25: "Notify Error" (RFC3209)
 - **New Error Sub-code = TBA:** "Notify Error/LSP Local Predicted Failure"
- **New TLV** in ERROR_SPEC Object



Indicate "before what time the predicted failure will become real failure"



- The source node MAY delete the protection LSP after t6 if no real failure happens
- Whether & when to delete the protection LSP is based on local policies

Next Steps

- Need to decide whether to continue this work in CCAMP or TEAS:
Chairs to give us advice
- Get feedbacks from the WG level and move forward

Thank you