RSVP-TE Recovery Extension for data plane initiated reversion, protection timer and SNC options signalling

draft-takacs-ccamp-revertive-ps-07.txt

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Outline

• Requirements
• Solution
• Next Steps
Requirements

• For successful establishment of a protected service, Ingress and Egress nodes need to agree on the following protection attributes:
  – Protection Revert Mode (i.e., revertive or non-revertive) [RFC4427]
  – Hold-off time (HOFF) [RFC4427]
  – Wait-to-Restore time (WTR) [RFC4427]
  – SNC Mode

• Pre-configuration of these protection attributes on per LSP basis is neither desirable nor scalable.

• Typically, these values are pre-configured to a default value.
  – Operators may need to tune WTR and HOFF timers on a per LSP basis to ensure best protection switching performance (e.g., to account for differential delays between worker and protection paths).

• Currently RSVP-TE does not specify signalling of these protection attributes.

• This requirement is identified in MPLS-TP Control Plane Framework Document.
Solution

- Update Protection Object format (a new C-Type) allowing sub-TLVs

```
0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
| Length | Class-Num(37) | C-Type(2 IANA) |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|S|P|N|O| Reserved | LSP Flags | Reserved | Link Flags |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|I|R| Reserved | Seg.Flags | Reserved |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
~ sub-TLVs ~
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```

- Introduce WTR, HOFF and SNC-options sub-TLVs
- If the WTR timer value is set to 0, the protection switching operation mode is assumed to be non-revertive (otherwise revertive).
Next steps

- Solution proposed in this draft has been identified in MPLS-TP Control Plane Framework as a (TP) requirement
- Draft has been through various revisions and is quite stable
- We would like to make this draft a WG Document