Interworking of GMPLS Control and Centralized Controller System

TEAS & CCAMP WG, IETF106, Singapore

draft-ietf-teas-gmpls-controller-inter-work-02

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Overview & Summary of Changes

• Overview of this draft: Describe how **GMPLS** distributed control plane can interwork with a **centralized controller system** in different scenarios:
  – Topology Collection & Synchronization
  – Multi-domain Service Provisioning
  – Multi-layer Service Provisioning
  – Recovery
  – Controller Reliability

• Main Changes:
  – Added the description of how the **LSP stitching method** [RFC5150] is used for multi-domain service provisioning
  – Added Yi Lin as one of the authors
GMPLS-Controller Interwork

Controller* can be any SDN controller or EMS/NMS

RESTconf/YANG

Centralized Controller System

Distributed CP (e.g., GMPLS)

* Controller can be any SDN controller or EMS/NMS
Multi-domain Service Provisioning (1)

Method 1: With end-to-end RSVP-TE session
- **Inter-domain labels** are assigned and distributed by the end-to-end RSVP-TE session
- Requires the interworking of RSVP-TE protocols between different domains

1.1 - One single end-to-end RSVP-TE session

1.2 - LSP Stitching

Note: LSP Segments are from line-side to line-side; The client signal mapping on the two ends are configured by the E2E RSVP-TE session
Multi-domain Service Provisioning (2)

- **Method 2: Without end-to-end RSVP-TE session**
  - **Inter-domain labels** are distributed by SDN Controllers
  - Do NOT require the interworking of RSVP-TE protocols between different domains

2.1 - Inter-domain labels assigned by NEs

2.2 - Inter-domain labels assigned by SDN controller

Refer to: draft-dugeon-pce-stateful-interdomain

Note: the source and destination path segments are “asymmetrical” segments ---- client signal mapping only on one end
Next Steps

- Provide more detailed description on interworking scenarios, e.g.,
  - Multi-layer Provisioning
  - Protection & Restoration
  - Controller Reliability

- Get feedbacks from the WG level and move forward
Thank you