

# 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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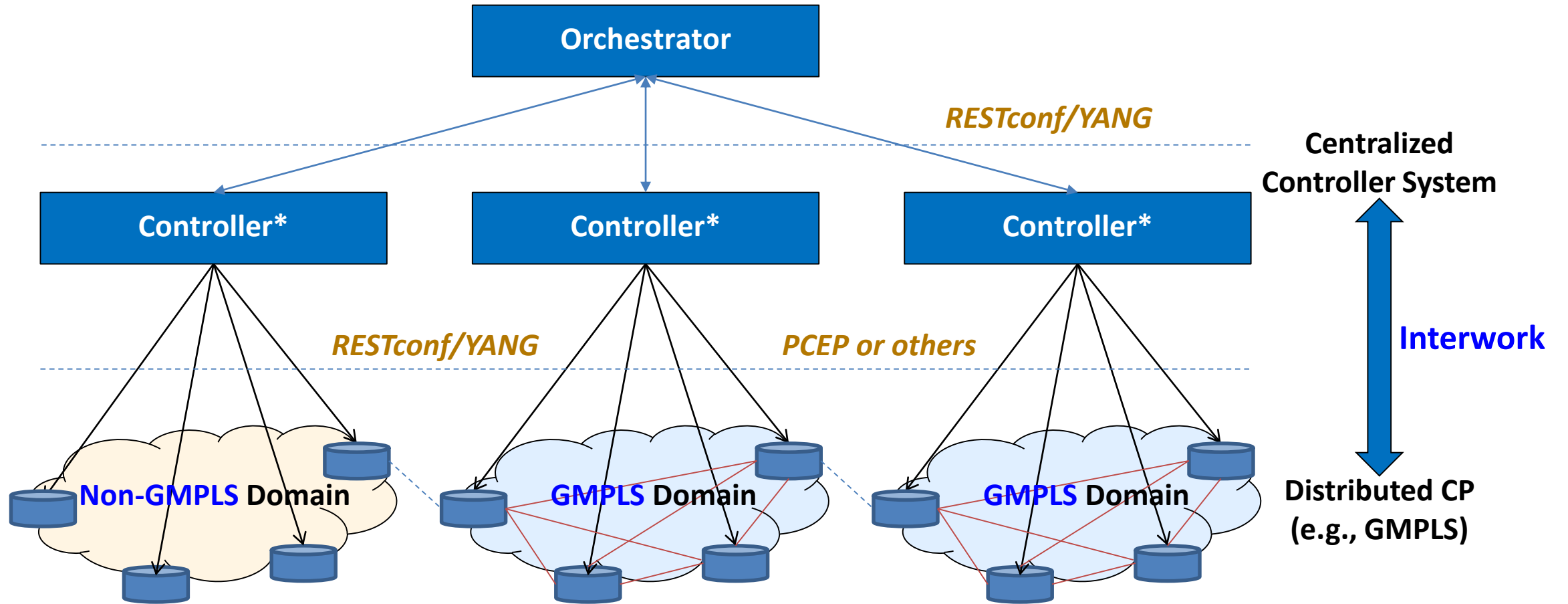
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# Overview & Summary of Changes

- **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



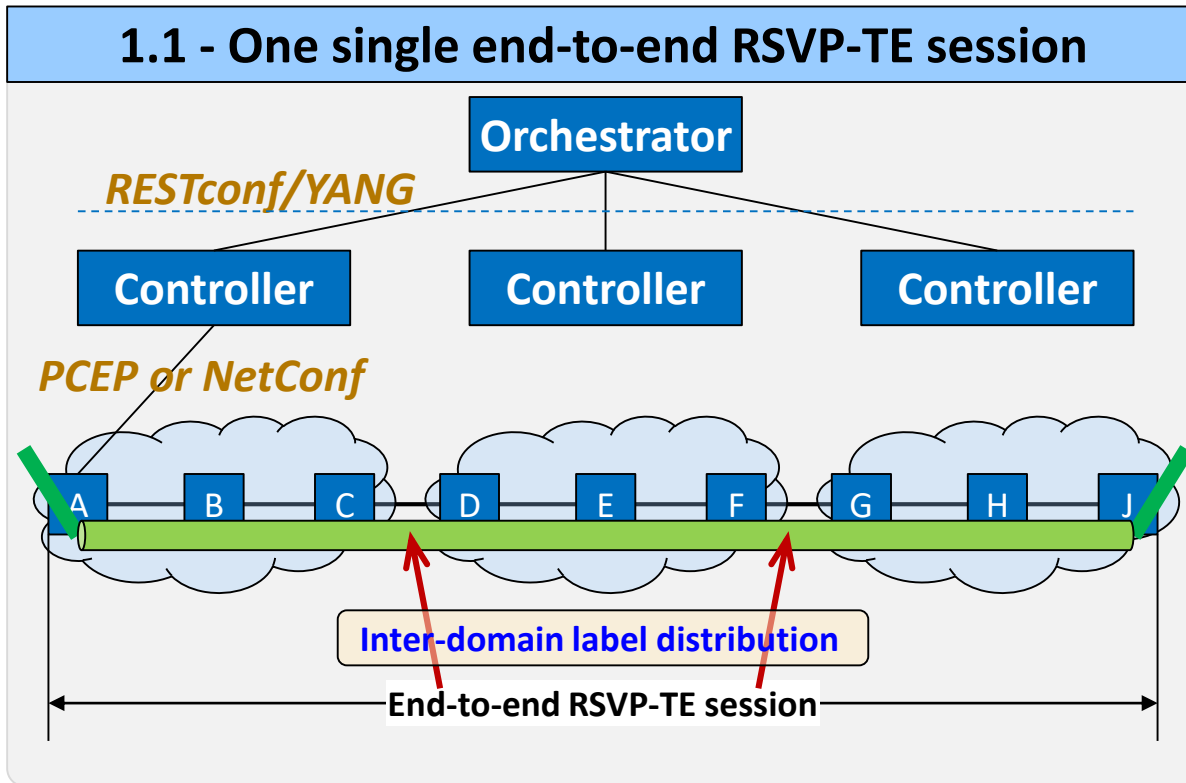
\* Controller can be any SDN controller or EMS/NMS

# Multi-domain Service Provisioning (1)

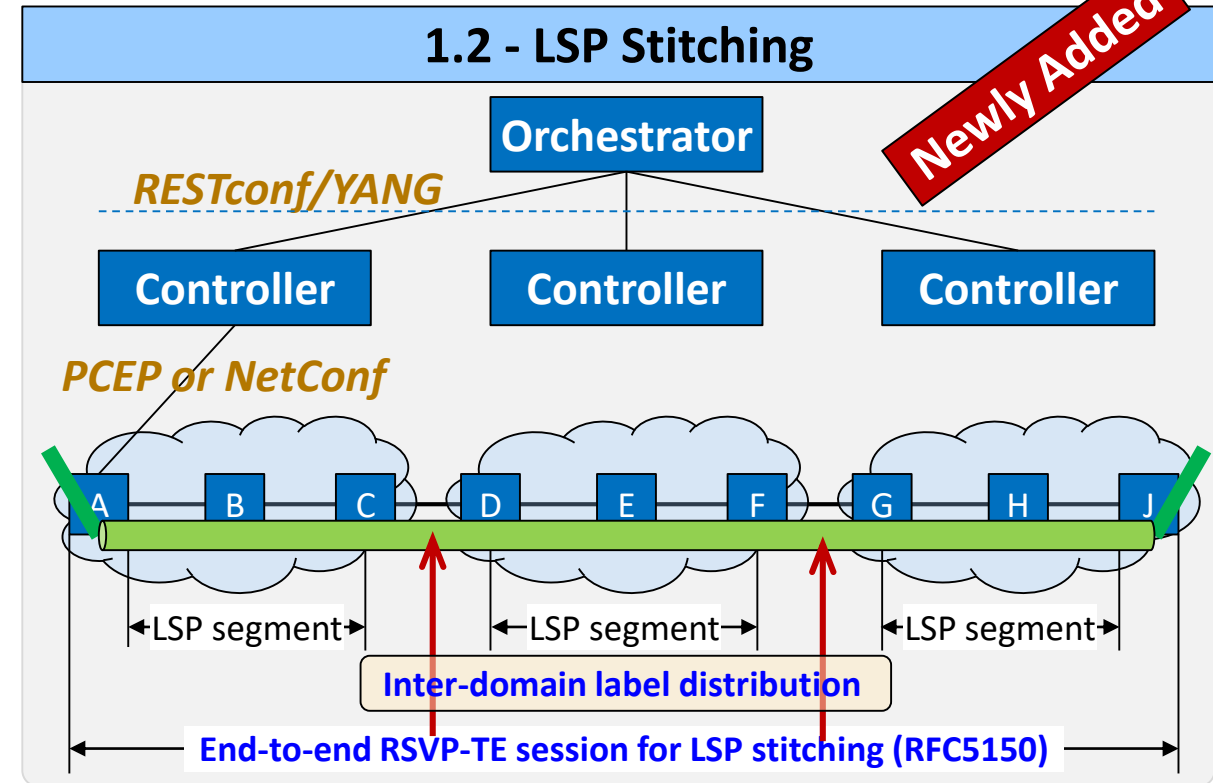
## ➤ Method 1: With end-to-end RSVP-TE session

- **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



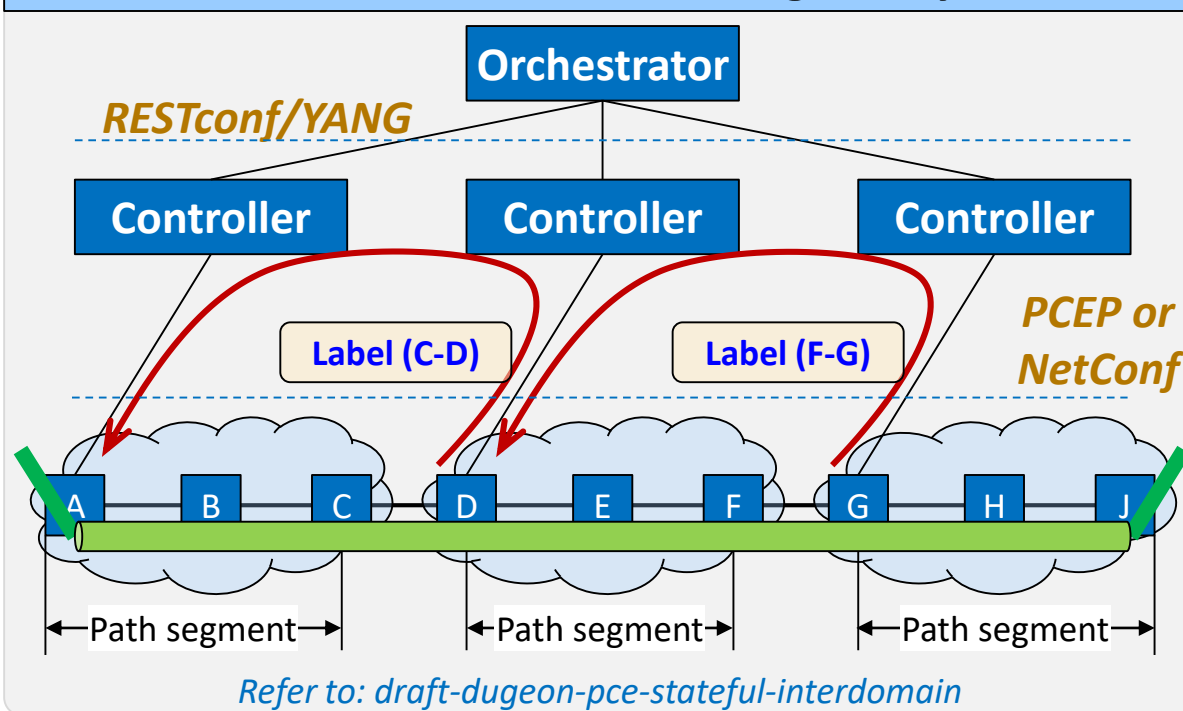
Note: LSP Segments are from line-side to line-side; The client signal mapping on the two ends are configured by the E2E RSVP-TE session

# Multi-domain Service Provisioning (2)

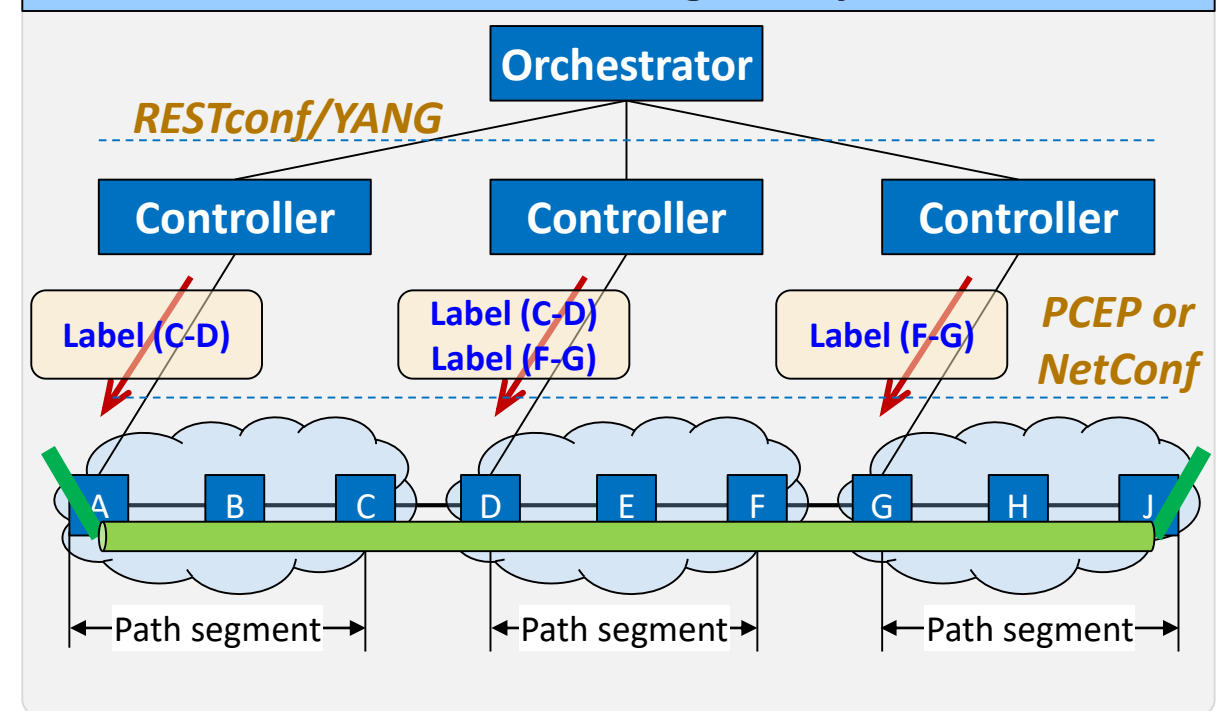
## ➤ Method 2: Without end-to-end RSVP-TE session

- **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



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***