

# **GMPLS Routing and Signaling Framework for Flexible Ethernet (FlexE) draft-izh-ccamp-flexe-fwk-05**

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# What has happened since Singapore

- Version -05 posted
  - Add a new Section 5.5 Open Issues
    - Note: This section is intended to be removed and the results of the discussion are supposed to be brought into the relevant sections of this document.
    - The intention is to trigger a discussion.
    - It is about the relationship of RSVP-TE Session and the network layer information
  - Some minor editorial changes
  - Remains to be done
    - Final clean up of requirements
    - Sort out if there is anything that needs to go into other documents

# Reminder: GMPLS Control Plane may be used to

- Set up a FlexE Group or FlexE Client
  - By using a Communication channel available in FlexE overhead.
- Advertise FlexE Groups and FlexE Clients into the Routing System)
- Set up of an MPLS LSP, when a FlexE infrastructure is required for this MPLS LSP.

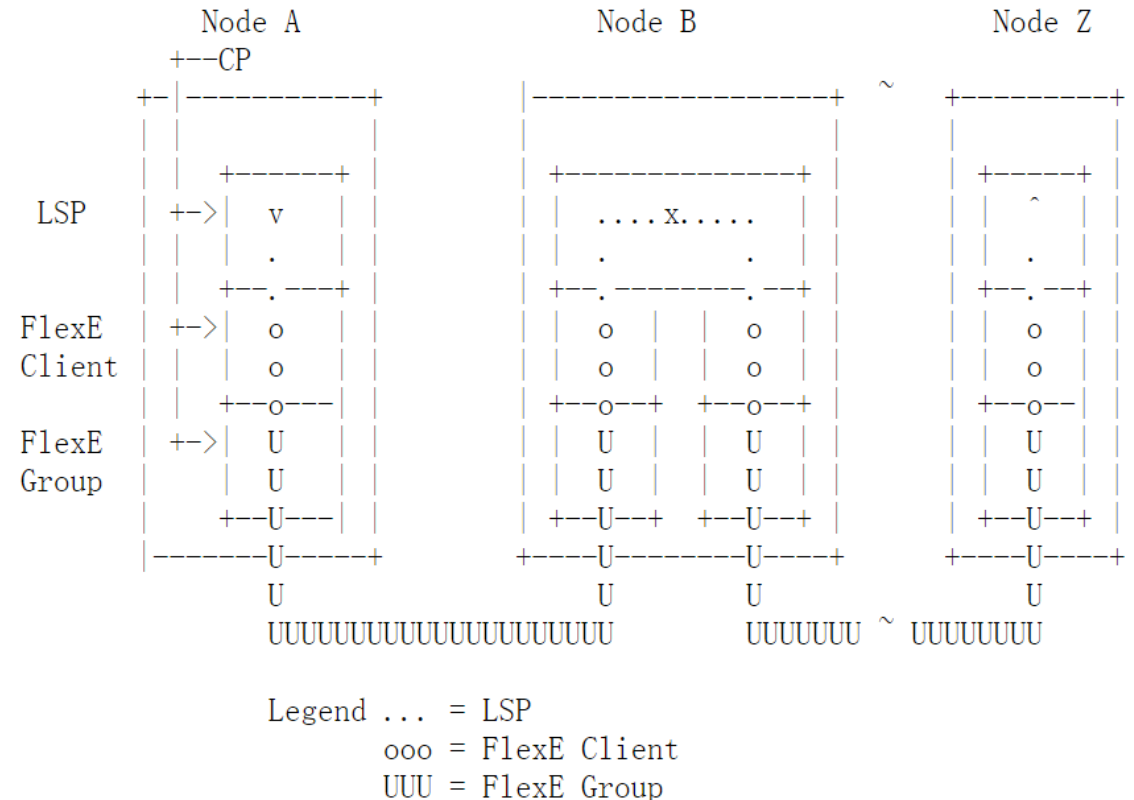


Figure 3: GMPLS controlled network with FlexE infrastructure

# Multi-layer control plane options

- While working on the FlexE Control Plane, questions around the relationship of entities as "control plane / multi-layer control plane", RSVP-TE session and the information relating to a layer network.
- The table below summarizes the possibilities we see.

Control Plane	Session	Network layer info
MLCP-1	One session	Info for all network layers
MLCP-2	Session for each network layer	Each session have info for one network layer
MLCP-12	More than one session	info for each network layer included in the session
MLCP-3	One session	info for a single network layer

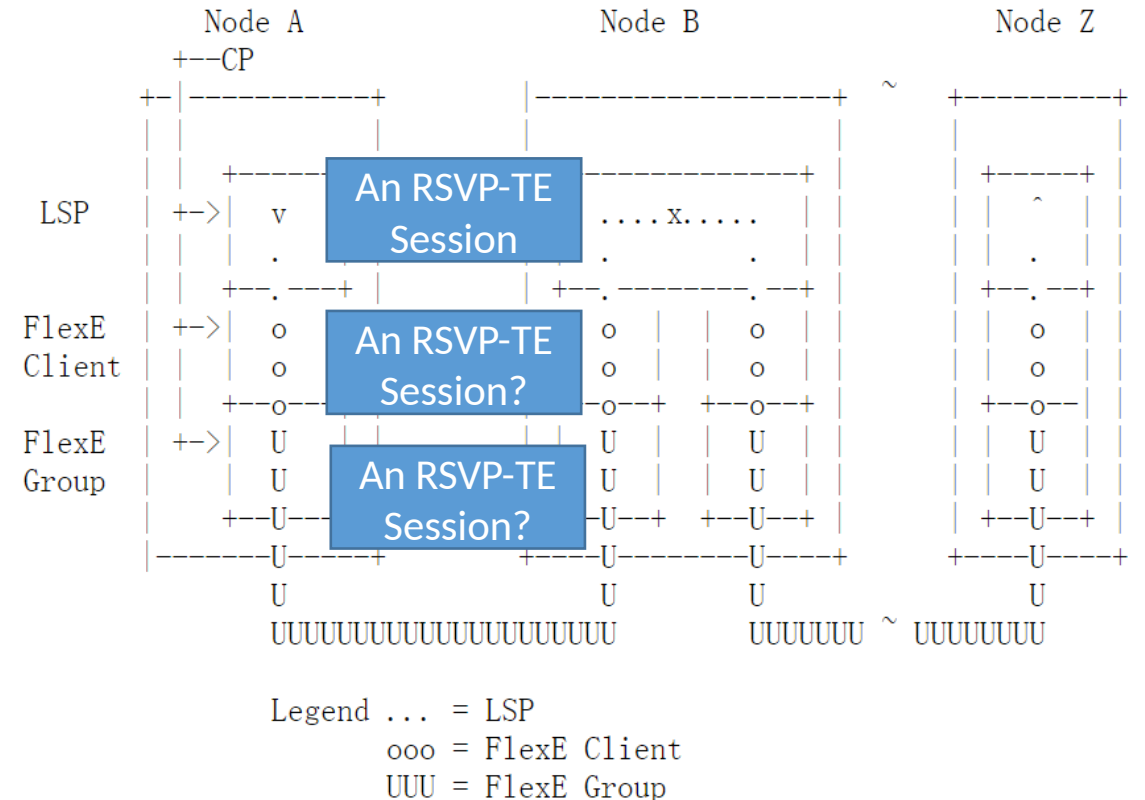


Figure 3: GMPLS controlled network with FlexE infrastructure

# Multi Layer Control Plane Typ-1 (MLCP-1)

- A multi layer control plane type 1 (MLCP-1) has one single control plane that controls all layer networks that two nodes interact over.
- The control plane sets up one single RSVP-TE session and all layer networks are controlled over that single session.
- For each layer network there is a set of information that the control plane manages over that session.

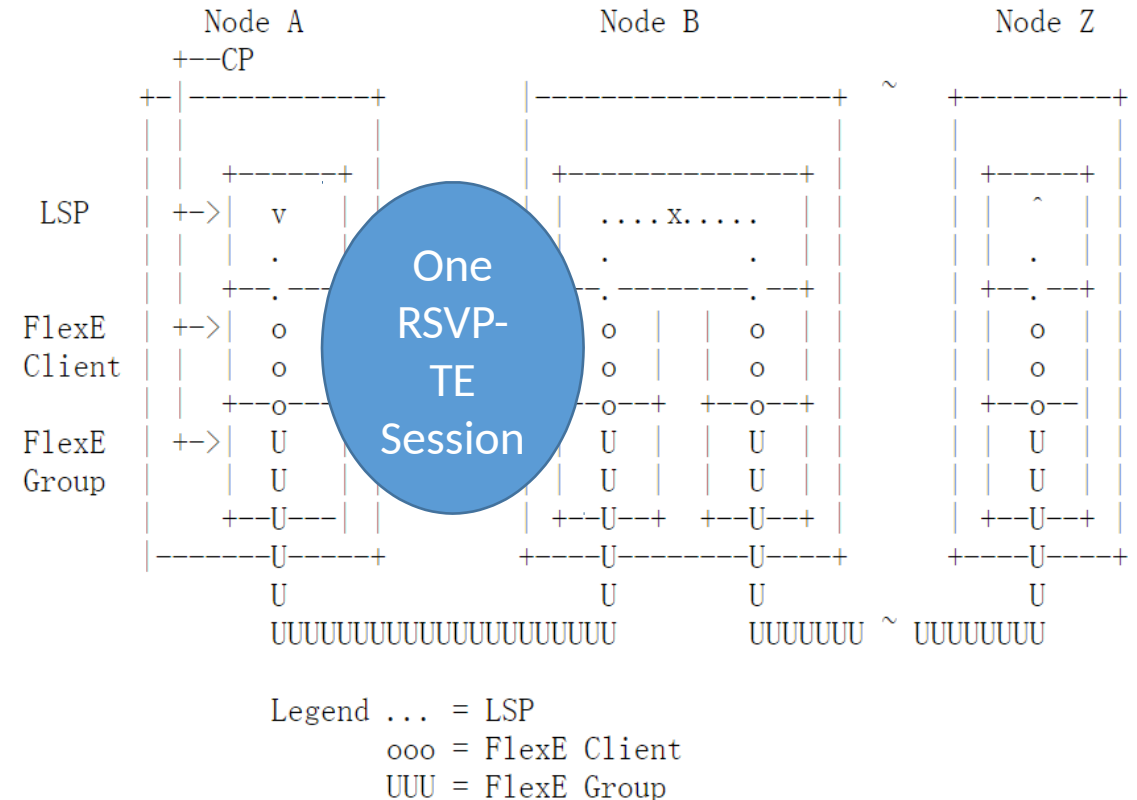


Figure 3: GMPLS controlled network with FlexE infrastructure

# Multi Layer Control Plane Typ-2 (MLCP-2)

- A multi layer control plane type 2 (MLCP-2) has one single control plane that controls all layer networks that two nodes interact over.
- The control plane sets up one RSVP-TE session for each layer network and the layer networks are controlled over a dedicated session.
- For each layer network there is a set of information that the control plane manages over the dedicated session.

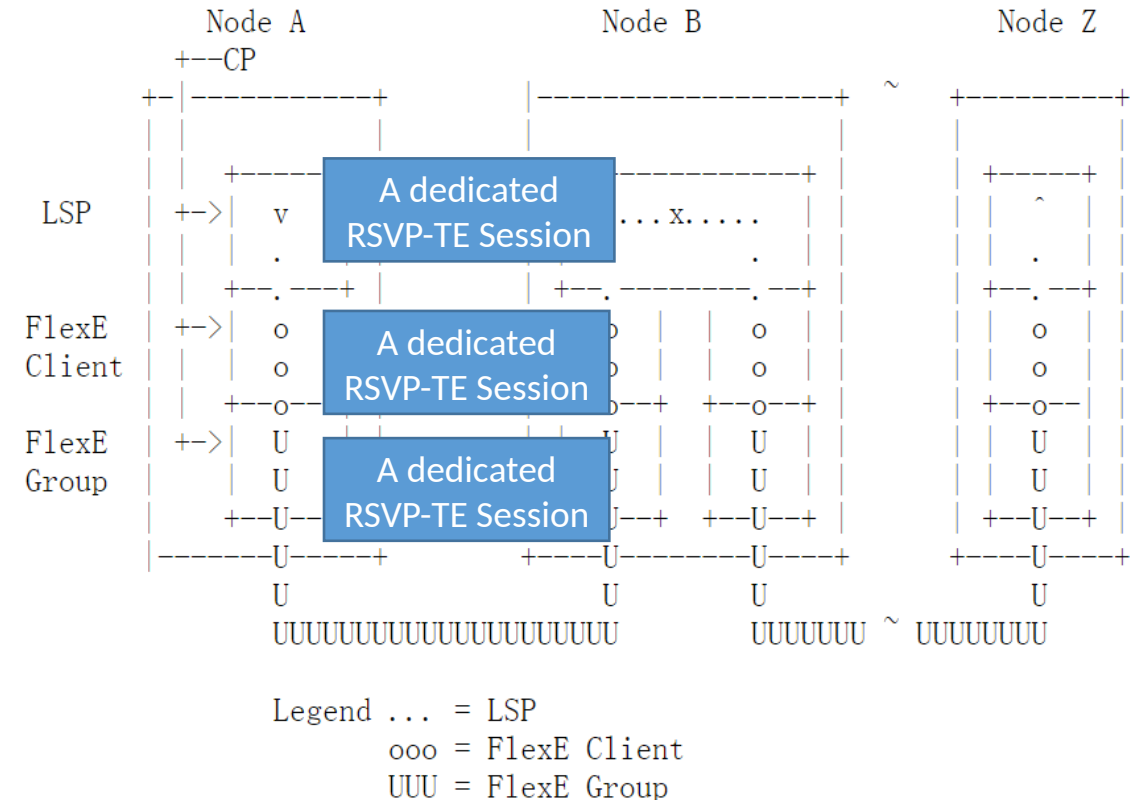


Figure 3: GMPLS controlled network with FlexE infrastructure

# Multi Layer Control Plane Typ-12 (MLCP-12)

- A multi layer control plane type 12 (MLCP-12) is a mix between MLCP-1 and MLCP-2, the control plane still controls all layer networks that two nodes interact over.
- However, for some layer networks it set up an RSVP-TE session the may control more than one layer network.
  - For other layer network an RSVP-TE session is used to control a single layer network.
- For each layer network there is a set of information that the control plane manages over dedicated sessions.

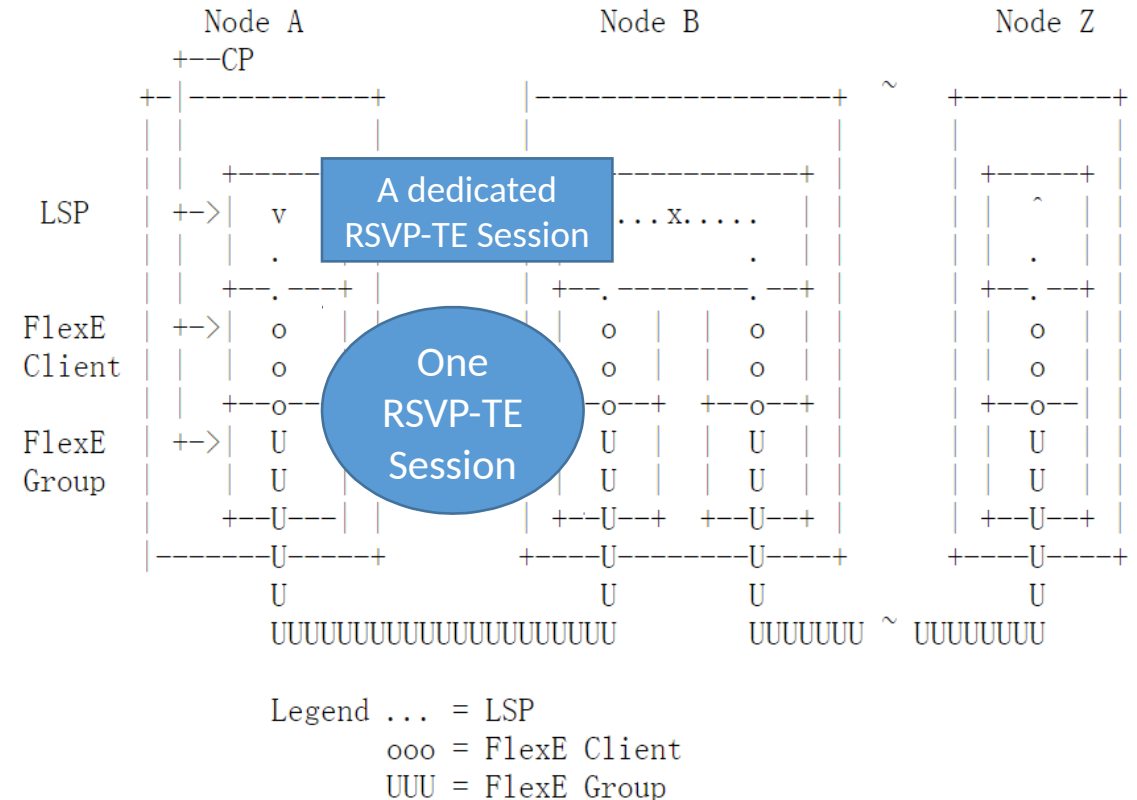


Figure 3: GMPLS controlled network with FlexE infrastructure

# Multi Layer Control Plane Typ-3 (MLCP-3)

- A multi layer control plane type 3 (MLCP-3) may be viewed as a set of confederated control planes, where each control plane controls one layer network, via an RSVP-TE session.
- For each layer network there is a set of information that the control plane manages over the dedicated session.
- For the case that there are more than one layer network between two nodes that needs to be controlled, there is one dedicated control plane for each layer network.

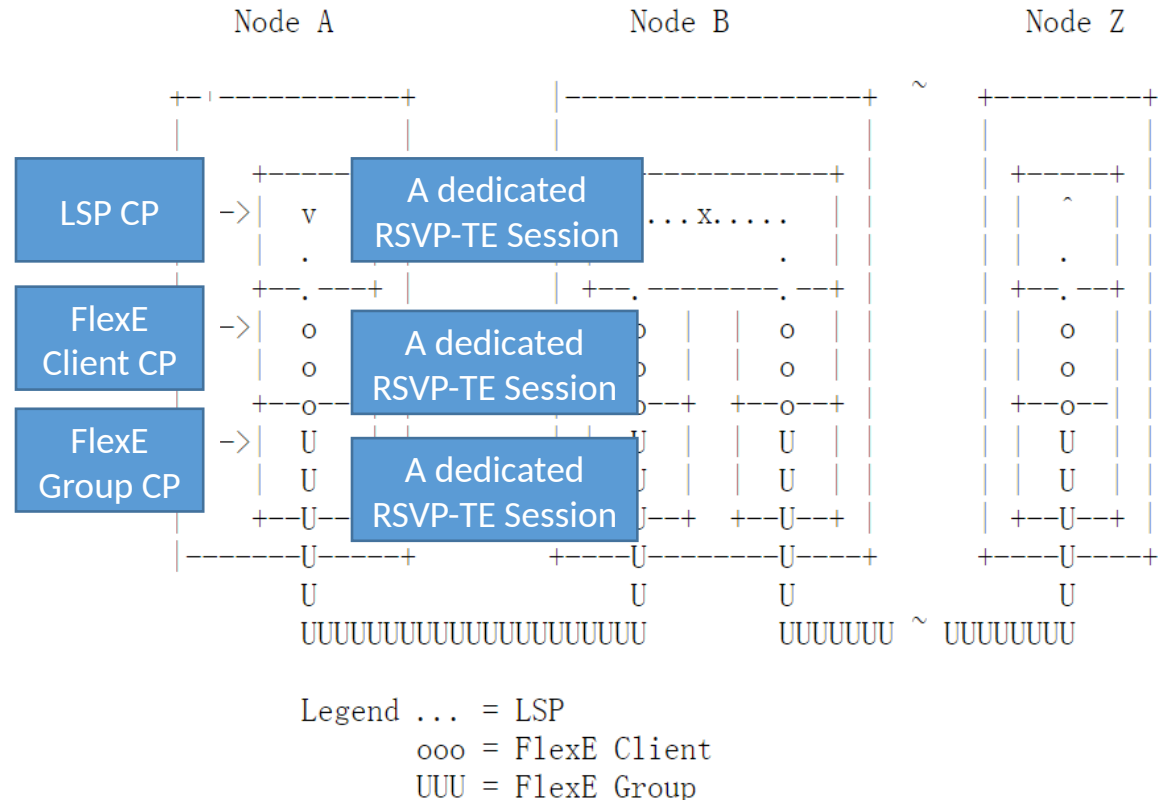


Figure 3: GMPLS controlled network with FlexE infrastructure



# Next steps

- WG review
- Solicit more review and comments
- Adopt as WG document?

Thanks!