

GMPLS Routing and Signaling Framework for Flexible Ethernet (FlexE) draft-izh-ccamp-flexe-fwk-07

Authors

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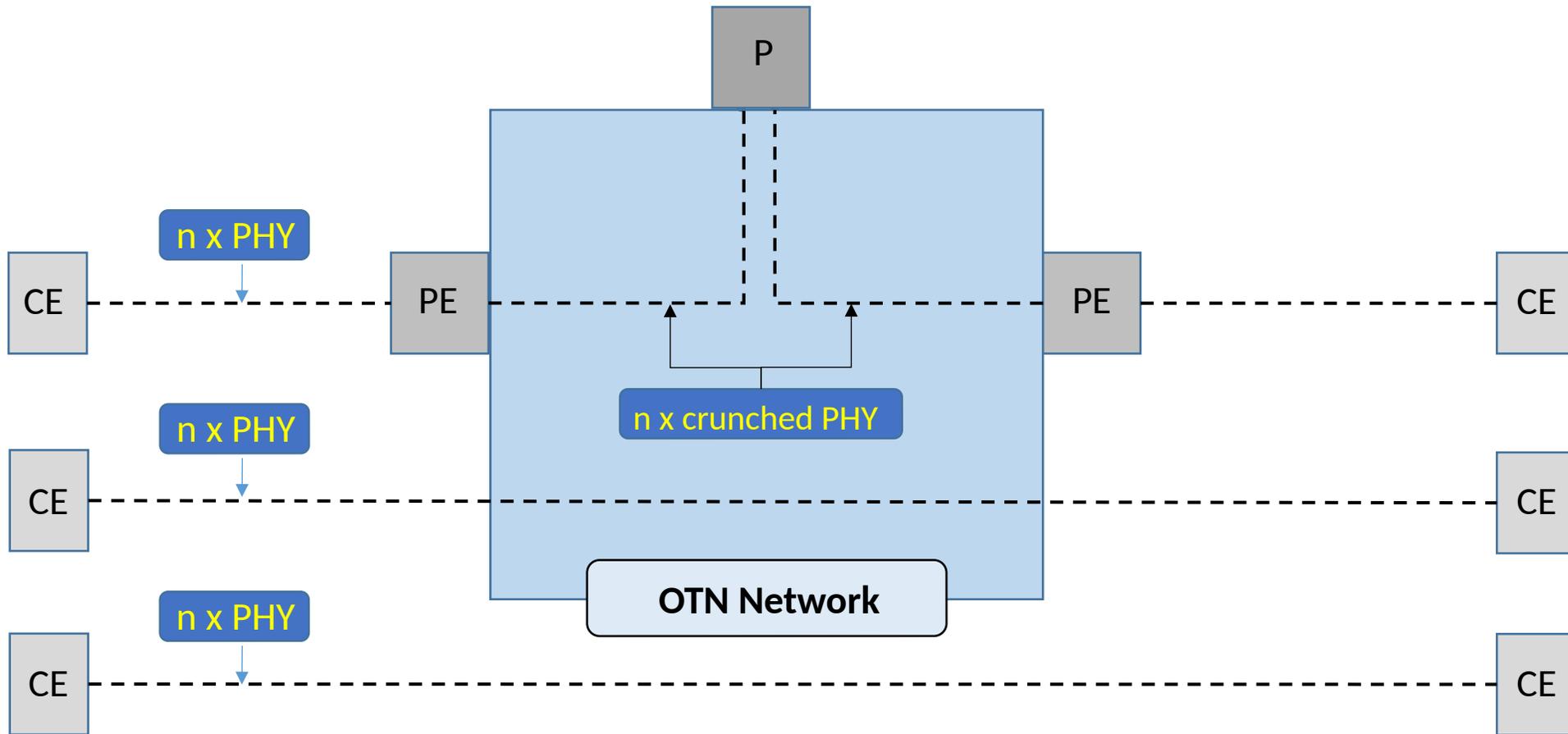
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What has happened since Last

- Version -07 posted
 - Quite a bit of comments and reviews
 - Restructured the document (again ^^)
 - Added info to the Introduction on “What we want to do”.
 - Moved requirements to an Appendix
 - A lot of smaller editorial changes
 - Logical Interfaces
 - The document is reasonably stable
 - Improvements but no technology changes

Framework and Architecture:



FlexE Reference Model

FlexE Group and Client vs. Interfaces

- In RFC 4201 Link Bundle are defined as a logical interface on a router
- Similarly from a control plane perspective
 - A FlexE Group may be defined as a logical Ethernet Interface on a FlexE capable node.
 - A FlexE Client maybe defined as a logical Ethernet sub-Interface on a FlexE capable node.
- FlexE Group resources are allocated to FlexE Clients.
- The logical link between two directly connected FlexE capable nodes can be seen as a TE link (see section 2 of RFC 4201)
- The TE link can then be advertised by an IGP (section 2.2) and referred to in signalling by RSVP (section 2.3).

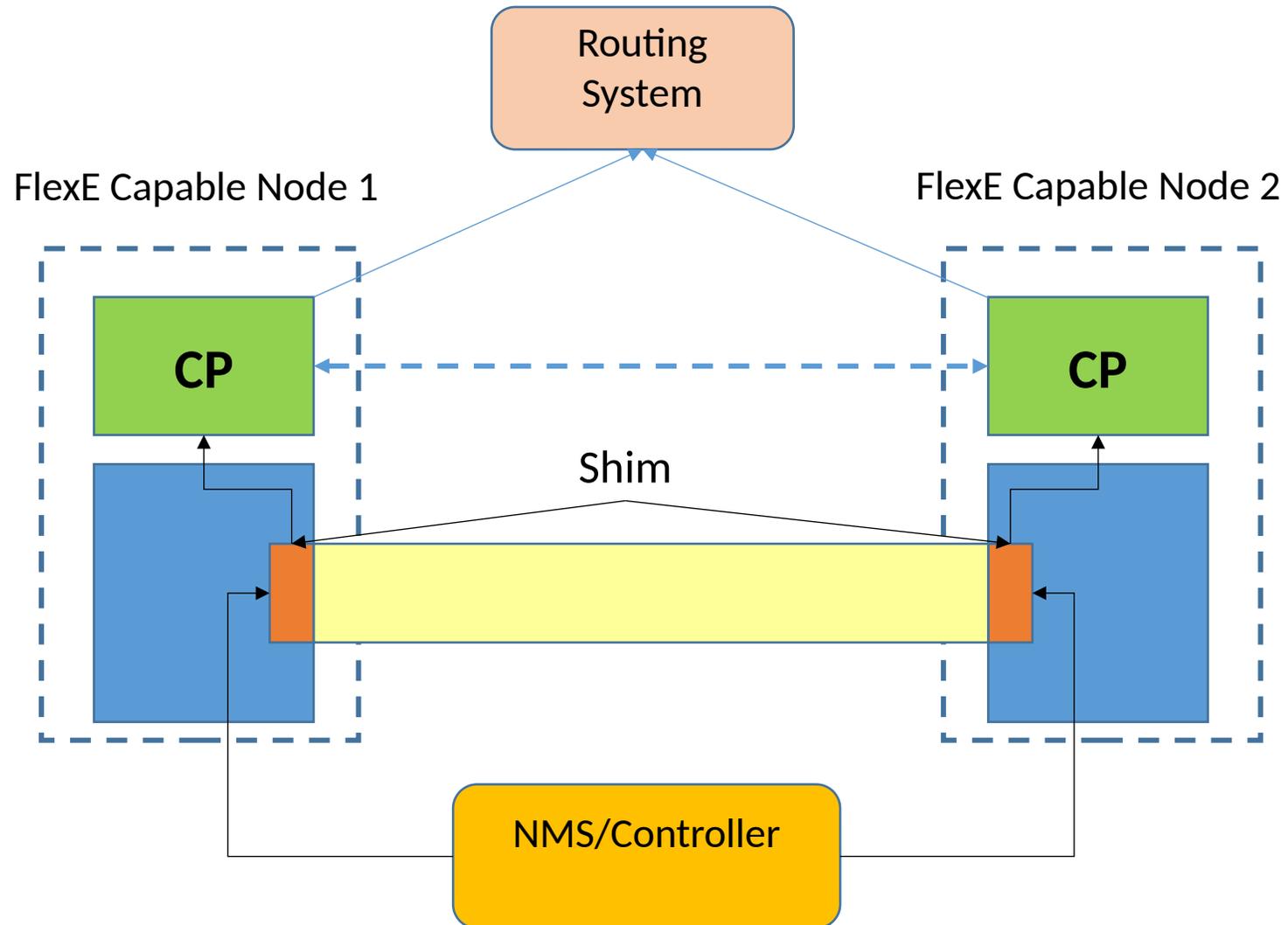
GMPLS Control Plane may be used to

- Set up a FlexE Group / Ethernet Interface
 - Out of band signalling
- Set up a FlexE Client / Ethernet sub-Interface
 - Use of native FlexE signalling channel
- Advertise FlexE Groups and FlexE Clients (into the Routing System)
- Set up of an MPLS LSP, when a FlexE infrastructure is required for the MPLS LSP.
- A real life deployment may use all of this or any subset
- Alternatives are NMS, centralized controller and/or model driven

FlexE Configuration Alternatives (examples)

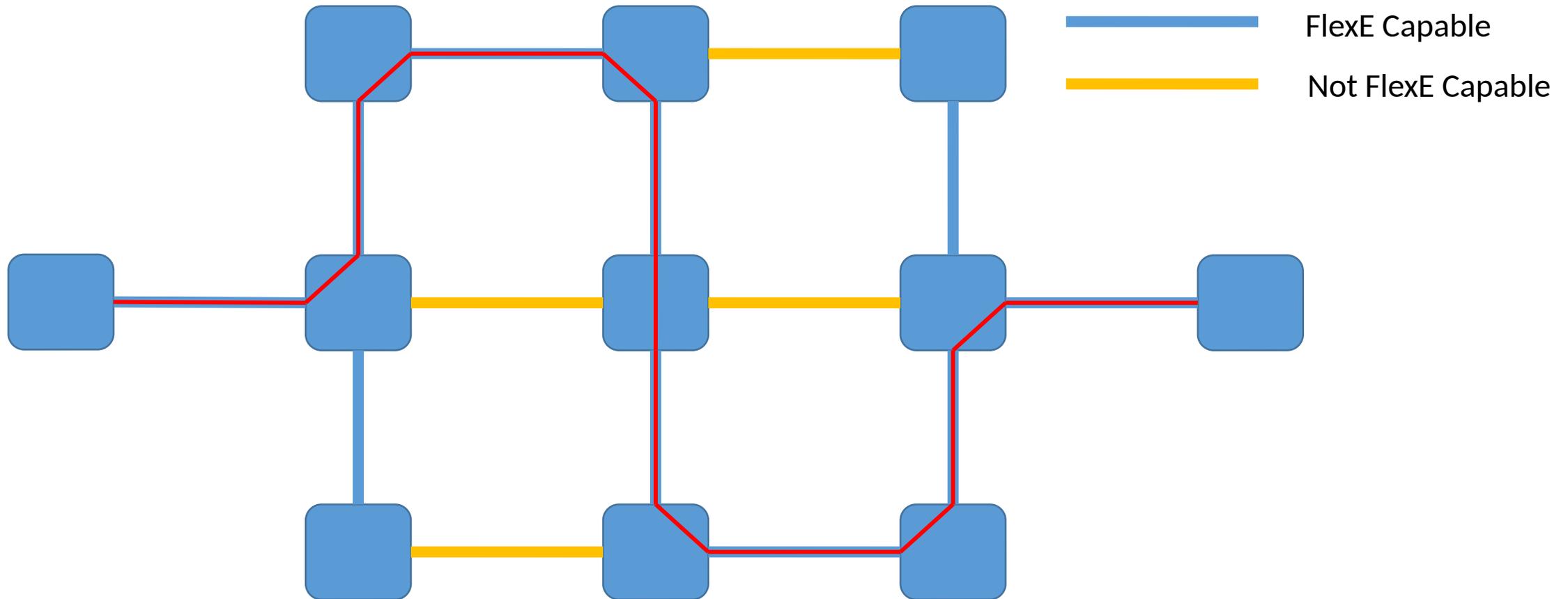
- Configuration by NMS only
 - FlexE Group, FlexE Client, MPLS LSP setup by NMS
- Combination of NMS and GMPLS control plane
 - FlexE Group setup by NMS
 - FlexE Client and MPLS LSP setup by GMPLS Control Plane
- Combination of NMS, model driven and GMPLS Control Plane
 - FlexE Group set up from NMS
 - FlexE Client set up using e.g. YANG
 - MPLS LSP set up by GMPLS Control Plane
- Any (reasonable) permutation of the above
 - E.g. everything done by YANG
- Signalling Channel
 - There is a native signalling/section management channel available as soon as FlexE Group is established
 - This channel may be used by both the NMS, YANG and the control plane
- Routing System
 - The FlexE configuration needs to be exported to routing system

Establishing a FlexE Group



LSPs over FlexE Capable Links

Finding a LSP path



Next steps

- Update according to existing reviews
- More reviews
- Adopt as WG document

Thanks!