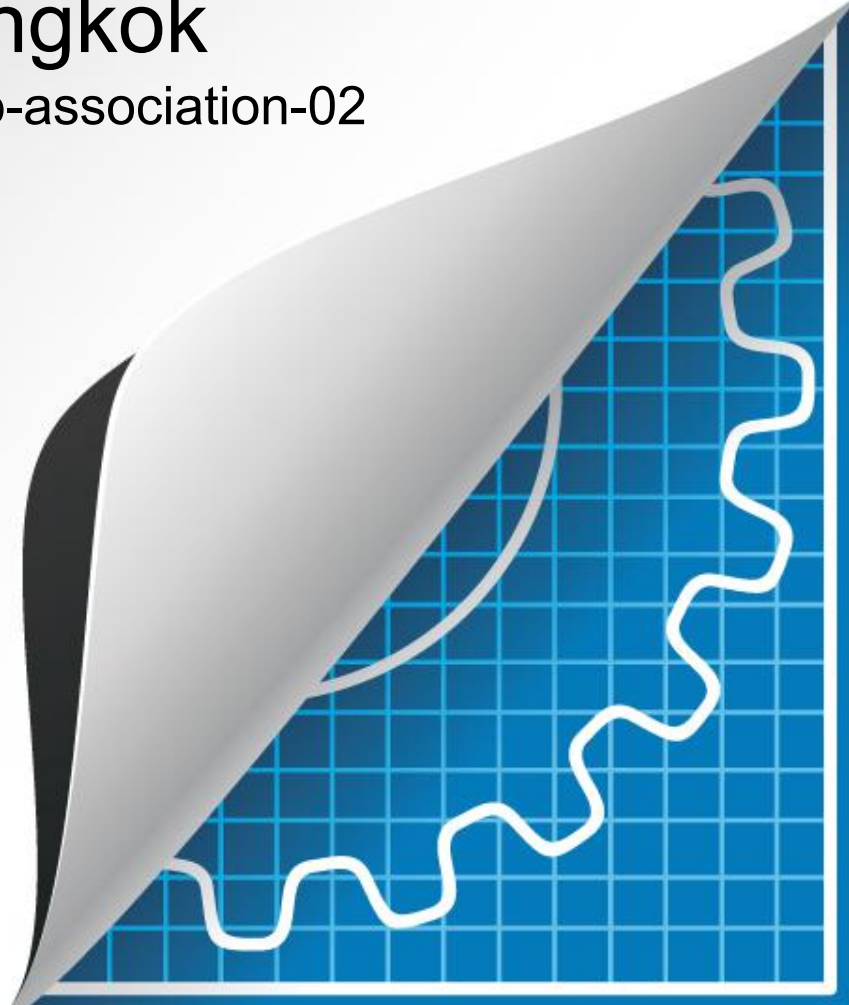


PCE Multi-layer LSP Association

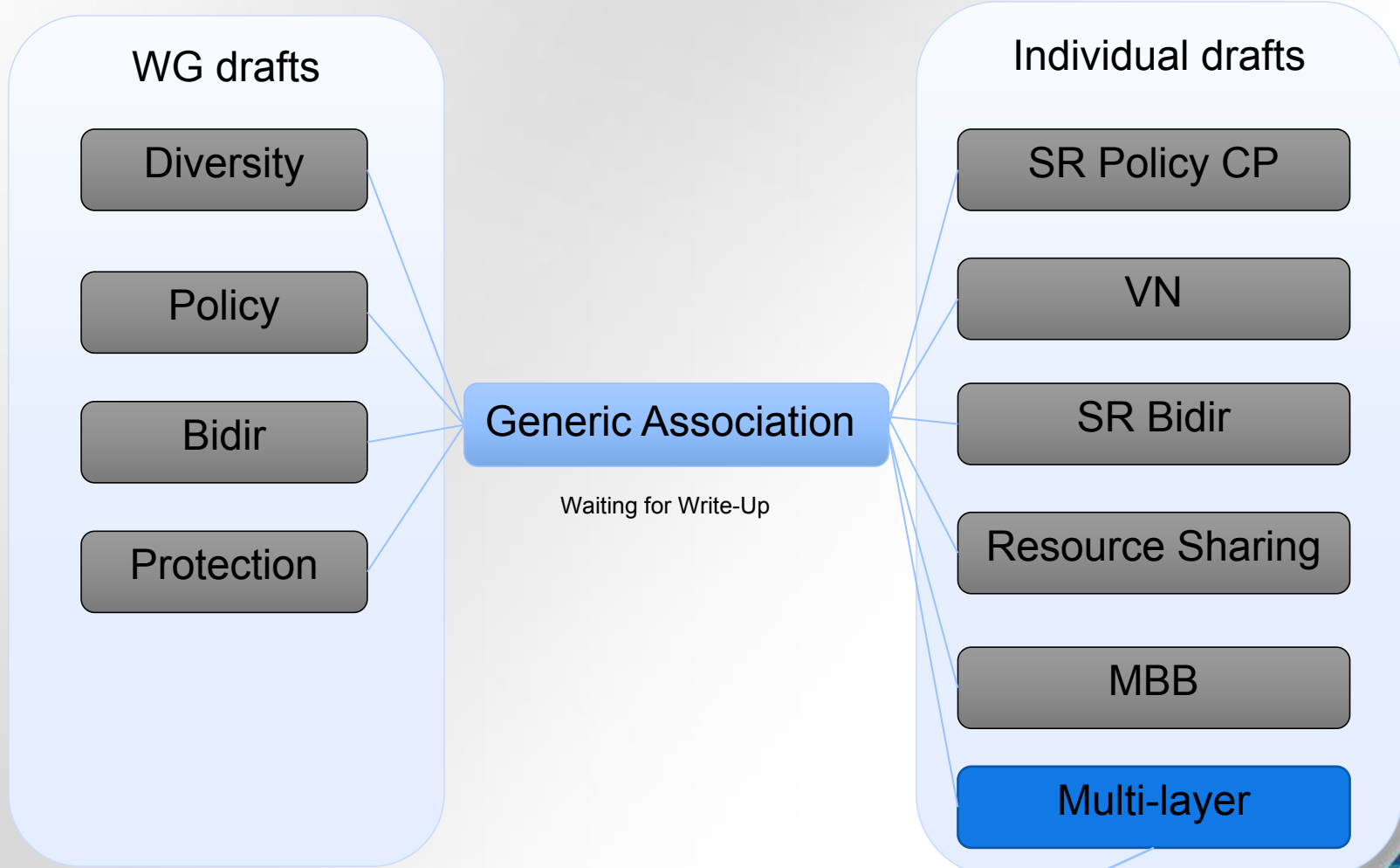
IETF 103, Bangkok

draft-xiong-pce-multilayer-lsp-association-02

Quan Xiong, ZTE
Fangwei Hu, ZTE
Ran Chen, ZTE

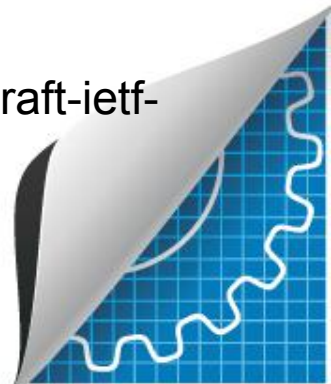


Association Drafts



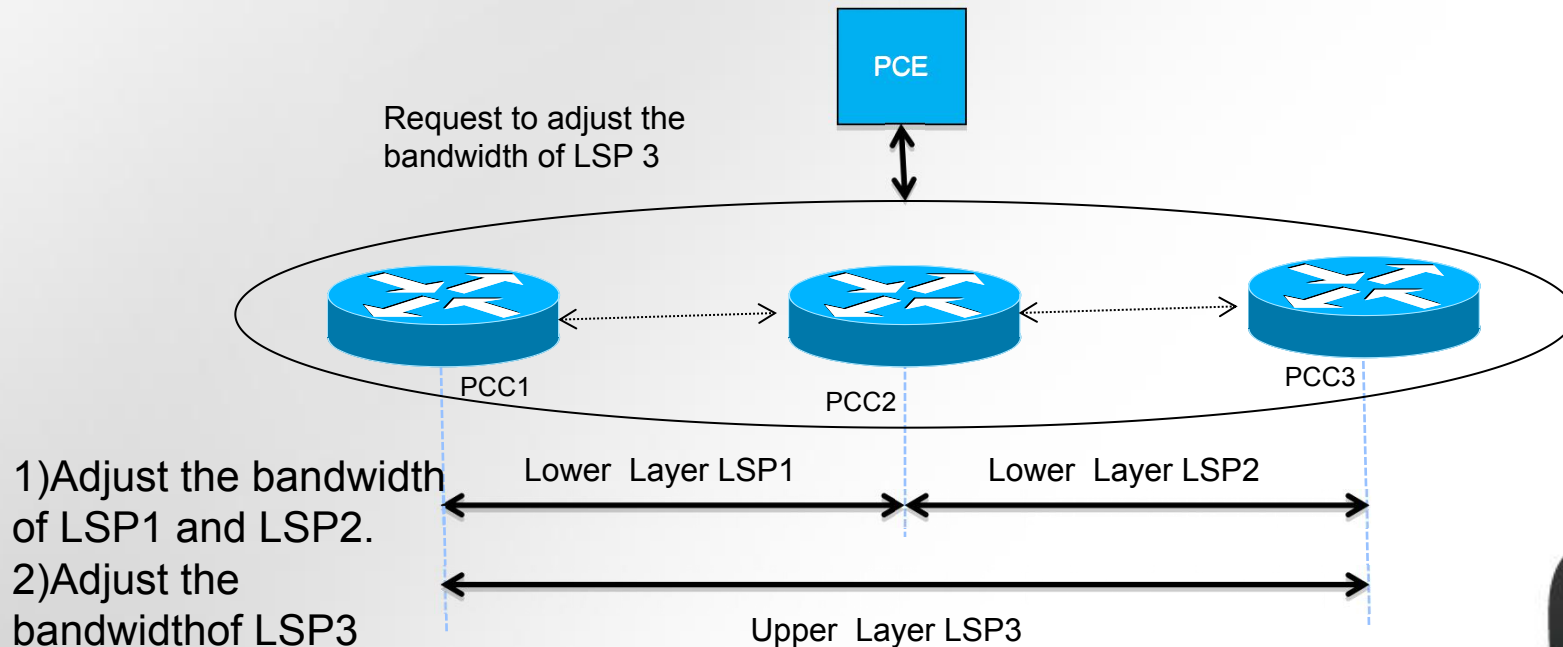
Multi-layer Association Draft

- draft-xiong-pce-multilayer-lsp-association-02
- 00 version provided in march 2017 and first present at IETF 99 in Prague.
- Multi-layer LSPs including upper-layer LSP and related lower-layer LSPs can be associated to a group to improve service provisioning.
- PCEP extension to ASSOCIATION object.
 - Multi-Layer Association Type (TBD)
 - Multi-Layer Association Group (MLAG)
 - Multi-Layer Association TLV where flags are defined.
 - H (LSP of the upper layer)
 - L (LSP of the lower layer)
- Updates since -00
 - Update Operator-configured and ASSOC-Type-List TLV as per draft-ietf-pce-association-group-06.
 - Use case for Inter-domain Stitching.



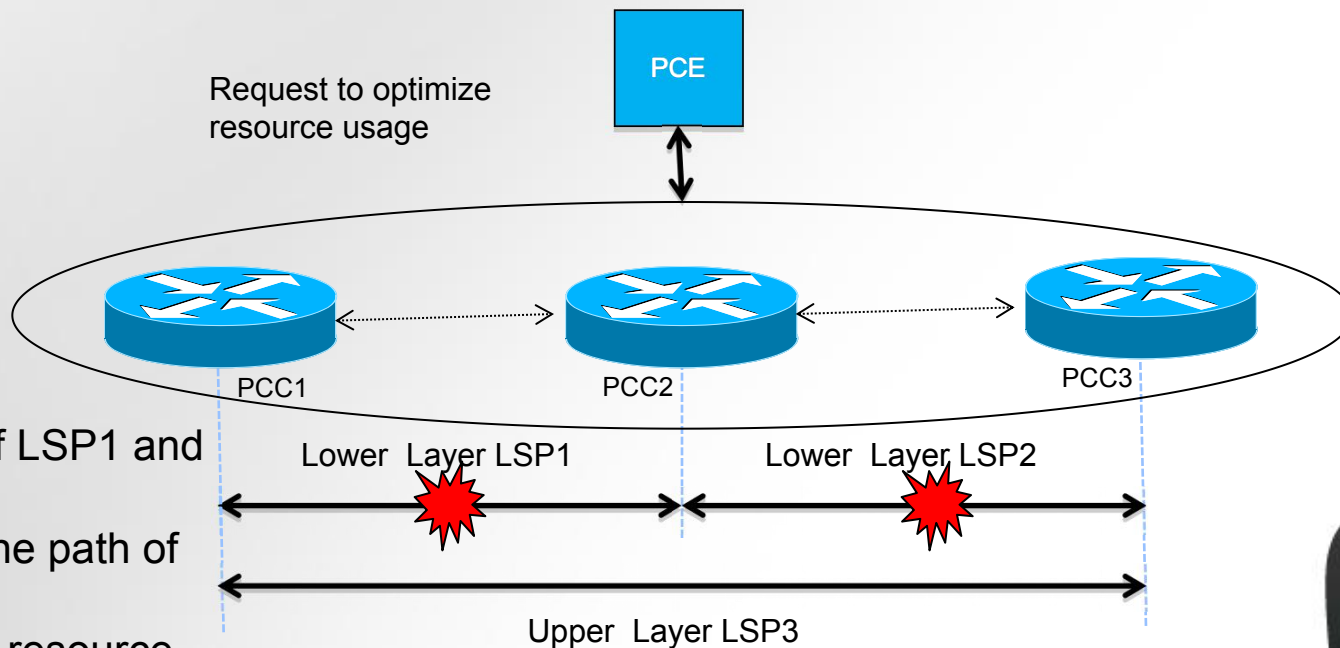
Use Case 1: Bandwidth Adjustment

- The stateful PCE provides the ability to adjust the bandwidth, for example, enlarge the bandwidth of the upper layer LSP and it **MUST** be necessary to adjust the bandwidth of related lower layer LSPs first, which provide the TE link for it.



Use Case 2: TE Links Optimization

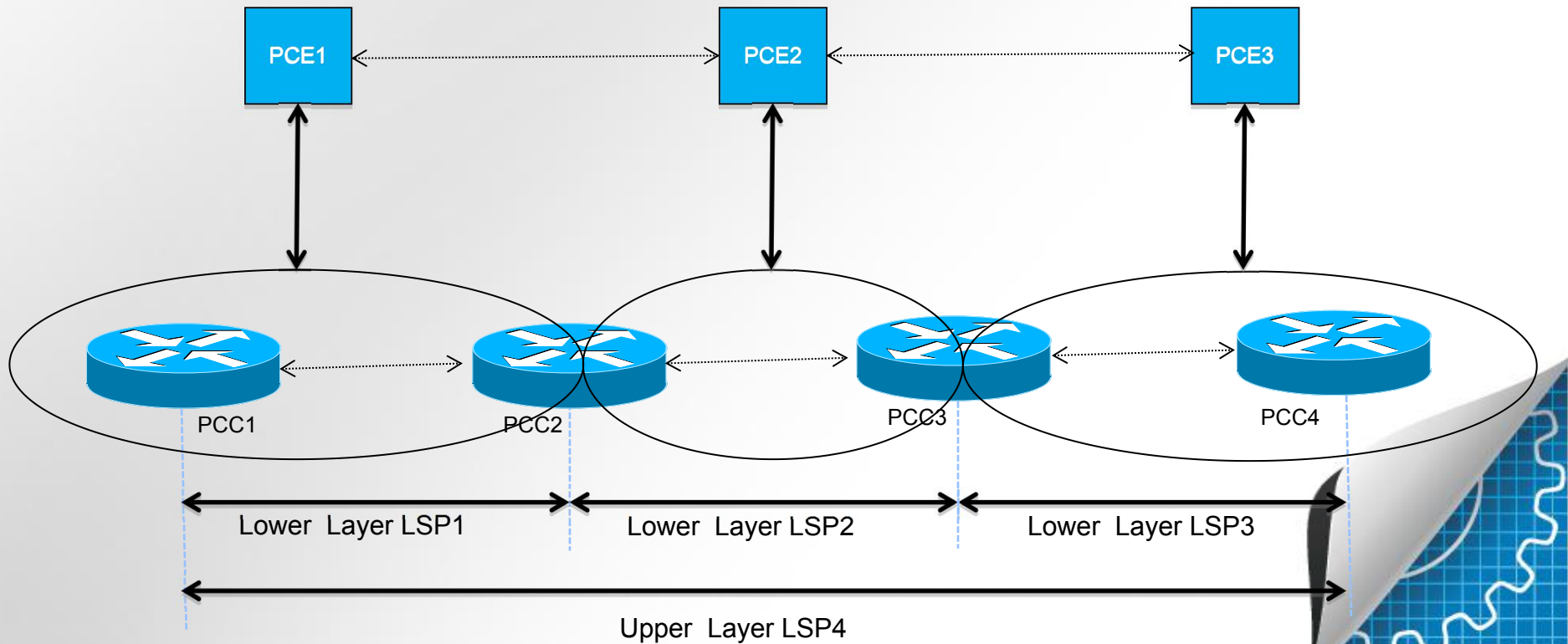
- The stateful PCE MAY request to optimize the link and path based on the lower layer of the LSP and its upper TE Link, and in the case of the failure of the lower level LSP, it MAY update the upper network LSP path and re-optimize resource usage across multiple layers.



- 1) Failure of LSP1 and LSP2.
- 2) Update the path of LSP3.
- 3) Optimize resource usage

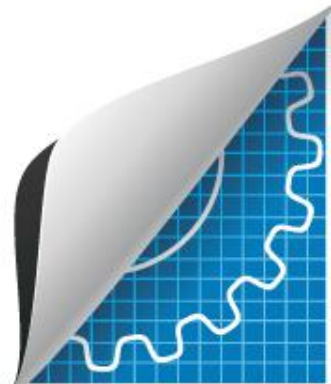
Use Case 3: Inter-domain Stitching

- In overlay multi-domain scenario, the lower-layer LSPs in each domain may be initiated by respective domain's PCE and stitched together to an association group with an end-to-end LSP as its upper layer LSP.



Next Steps

- Comments and discussions
- Request WG Adoption



Thanks!