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# Routing Area Open Meeting - PCE WG update

IETF 111

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# Main Motivations for Path Computation Element (PCE)

- Centralized control features
  - Path engineering (possibly with advanced metrics)
  - Path optimization
  - Path diversity
  - Path state synchronization (for stateful capabilities)
  - Global view
- Multi-domain / multi-layer coordination
  - Path selection
  - Path control
  - Path obfuscation at boundaries

# PCE WG

- The PCE WG is responsible for the Path Communication Element Communication Protocol (PCEP).
- PCEP allows a Path Computation Client (PCC - for example, a head-end router) to request paths from, or have paths created by, a Path Computation Server (PCE).
- PCEP is also well suited for communication between PCEs to coordinate inter-domain paths.
- PCE is a core component of Software Defined Networking (SDN) systems.
- PCEP is used for RSVP-TE signalled paths, SR, PCECC.
  - PCEP can also be used for BIER, Detnet, SFC...
- PCEP is used in IP/MPLS, Optical as well as for inter-layer path setup.

# Hot topics

- Stateful PCE
  - Various enhancement are being discussed
    - State sync between PCE
    - New Association types
- SDN
  - Basic PCECC for static LSP is published - RFC 9050
  - PCECC is further enhanced for SR, SRv6, P2MP etc
  - Native IP
- Segment Routing
  - SR Policy
  - Path Segment
  - BI-DIR SR
  - SRv6
- Multicast
  - SR P2MP Policy
  - BIER
    - BIER-TE
    - Some new proposal for PCE based BIER
- Some discussion on the list on
  - PCEP-LS

# WG coordinations

- TEAS - PCE based architecture for TE, ACTN, IETF network slice
- CCAMP - PCE for optical networks (WSON, Flex-grid etc)
- SPRING - for all SR related requirements
- BIER - for all BIER related requirements
- IDR - Native IP, feature parity for SR extn
- PIM - SR P2MP Policy
- DETNET - for use of PCE in controller plane
- SFC - any control plane work

# Thank You!



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