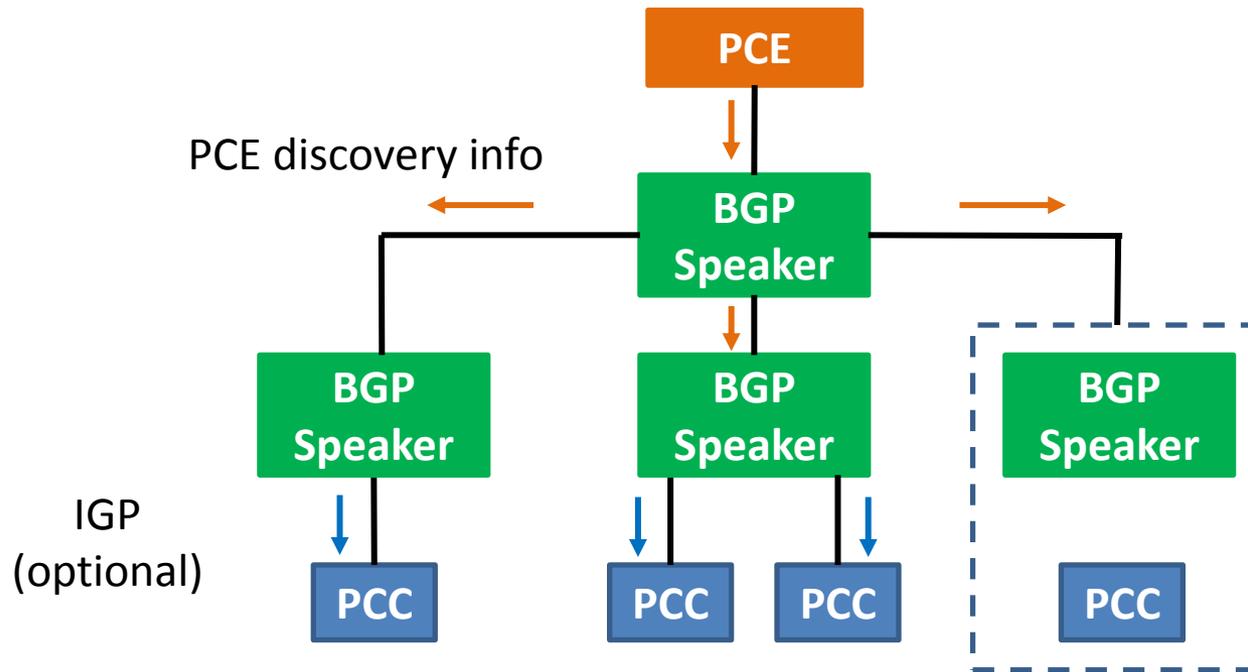# BGP Extensions for PCE Discovery

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# Problem Statement

- IGP based PCE discovery are defined in RFC 5088 and 5089

- IGP based mechanisms may not be applicable in some scenarios
  - With BGP-LS, PCE may not participate in IGP for collecting routing information
  - Inter-domain PCE discovery

- As BGP-LS extends BGP for north-bound routing info distribution to PCE, the BGP session can be re-used for PCE discovery

# Proposed Solution



- PCE discovery info is advertised from PCE down to BGP speakers

- BGP distributes the PCE discovery info according to policy

- IGP may be used to re-distribute the PCE discovery info into the local IGP domain

# Proposed Solution (Cont.)

- Extend BGP for PCE discovery
  - New 'PCE_ADDR' NLRI to carry PCE address info
    - IPv4 PCE address
    - IPv6 PCE address

  - New 'PCE_DISC' Attribute to carry detailed PCE discovery information
    - PATH-SCOPE TLV
    - PCE-DOMAIN TLV
    - NEIG-PCE-DOMAIN TLV
    - PCE-CAP-FLAGS TLV

# Operational Considerations

- Existing BGP operational procedures apply

- PCE discovery info is treated as pure application data by BGP

- PCE discovery information is considered relatively stable, thus will not bring significant impact to BGP updates and convergence

# Next Steps

- Solicit comments from WG

- Revise the draft