

BGP-LS Extensions for PCE Discovery

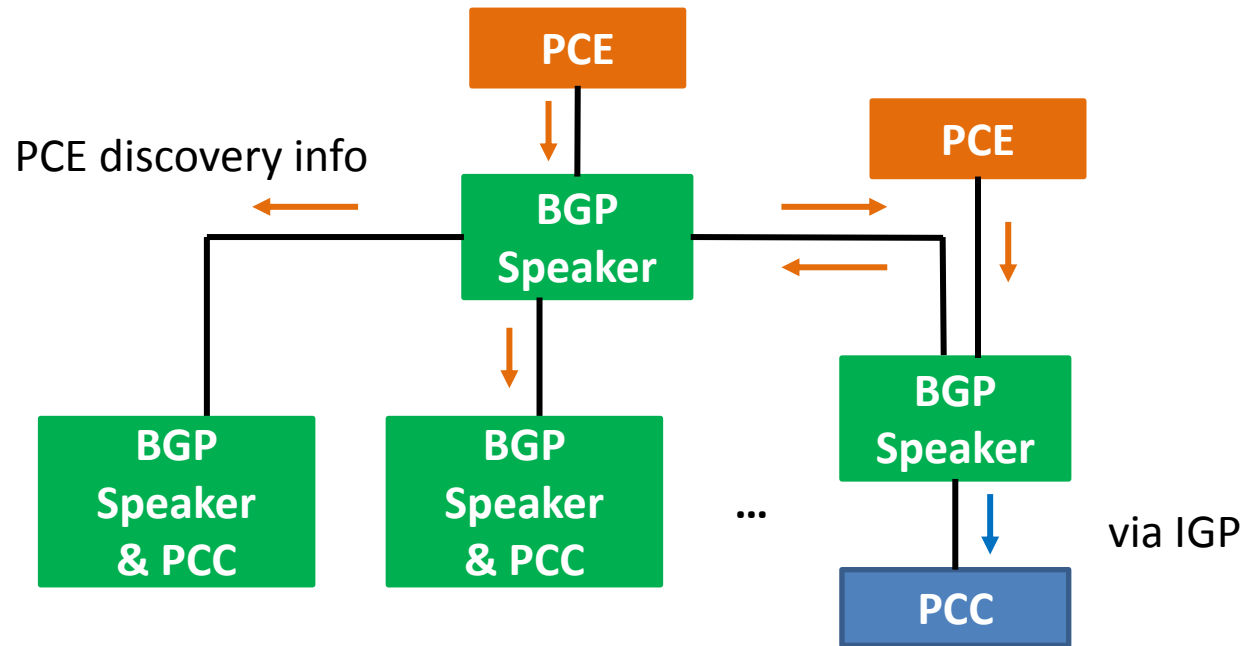
draft-dong-pce-discovery-proto-bgp-03

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Motivation

- PCC & PCEs need to automatically discover the set and characteristics of PCEs
- IGP based PCE discovery is not applicable if PCEs do not participate in IGP directly
 - Cooperative Inter-domain path computation
 - Hierarchical PCEs
 - Using BGP-LS for routing information collection
- When BGP-LS is used for routing information distribution to PCE, the same BGP sessions can be **re-used** for PCE discovery

Solution Overview



- Re-use the BGP-LS sessions
- BGP distributes PCE discovery information among domains
- IGP may re-distribute PCE discovery info in the local domain

Protocol Extensions

- Extend BGP-LS for PCE discovery
 - New NLRI-Type ‘PCE Discovery’ to carry PCE address info
 - IPv4 PCE address
 - IPv6 PCE address
 - New Protocol-ID to identify PCE as information source
 - New ‘PCE Discovery TLV’ to carry detailed PCE discovery information in BGP-LS Attribute
 - PATH-SCOPE sub-TLV
 - PCE-CAP-FLAGS sub-TLV
 - OSPF/IS-IS PCE-DOMAIN sub-TLV
 - OSPF/IS-IS NEIG-PCE-DOMAIN sub-TLV

Conclusion & Next Steps

- BGP-LS based discovery is complementary to the IGP based discovery mechanisms
- Draft content is getting stable
- Ready for WG adoption?