PCEP extensions for BIER-TE

draft-chen-pce-bier-10

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Introduction

• This document specifies extensions to the Path Computation Element Protocol (PCEP) that allow a stateful PCE to compute and initiate the path for the BIER-TE.
Extensions

• BIER Capability Advertisement.
  – Defines a new Path Setup Type (PST) for BIER-TE.
  – Defines the BIER-TE-PCE-CAPABILITY sub-TLV to exchange BIER-TE capability.

• The LSP Object
  – Defines the BIER-TE-IDENTIFIERS TLVs to identify the path.

• The SRP Object
  – Defines a new Path Setup Type (PST=TBD2) for BIER-TE.

• The END-POINTS Object
  – Reuses the P2MP END-POINTS object body for IPv4 and END-POINTS object body for IPv6 (Object-Type 4) which is defined in [RFC8306].

• Objective Functions
  – Defines a new Objective Function for path calculation.

• ERO Object
  – Defines an BIER-TE-ERO subobjects to carry a adjacencies BitStrings, BSL,subdomain and SI.

• RRO Object
  – Defines an BIER-TE-RRO subobjects to reports an BIER-TE to PCE.
Update

• Based on the comments from the IETF meeting:
  – Add the reference to RFC8623.
  – Add the use-case of objective function
  – Add the LSP Object
The relationship with other PCE BIER Drafts

- draft-chen-pce-bier
  - Specifies extensions to the Path Computation Element Protocol (PCEP) that allow a PCE to compute and initiate the path for the BIER-TE. This draft mainly focuses on the path calculation of BIER-TE and The controller distributes a BIER-TE path to the BFIR.

- draft-chen-pce-pcep-extension-pce-controller-bier
  - Focus on the central controller scenario, it specifies a new mechanism where PCE allocates the BIER information centrally and uses PCEP to distribute them to all nodes (include BFR, BFIR and BFER).

- draft-chen-pce-controller-bier-te
  - Focus on the central controller scenario, it specifies a new mechanism where PCE allocates the BIER-TE information centrally and uses PCEP to distribute them to all nodes (include BFR, BFIR and BFER).

- draft-li-pce-based-pce
  - It contains the extension of the PCE BIER.
Next Step

• Comments welcome.

• WG adoption 😊

Thanks!