

PCEP extensions for BIER

draft-chen-pce-bier-05

Ran Chen(ZTE)
Zheng Zhang(ZTE)

Introduction

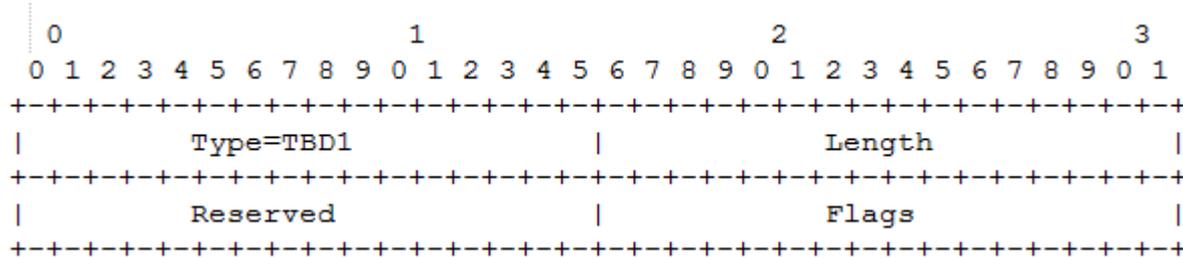
- This document specifies extensions to the Path Computation Element Protocol (PCEP) that allow a stateful PCE to compute and initiate the path for the BIER-TE.

Extensions

- BIER Capability Advertisement.
 - Defines a new Path Setup Type (PST) for BIER.
 - Defines the BIER-TE-PCE-CAPABILITY sub-TLV to exchange BIER capability.
- The RP/SRP Object
 - Defines a new Path Setup Type (PST=TBD2) for BIER-TE.
- END-POINTS Object, two options:
 - Reuses the P2MP END-POINTS object body for IPv4 and END-POINTS object body for IPv6 (Object-Type 4) which is defined in [RFC8306].
 - Defines a new BIER END-POINT Object to carry the BFR-ids informations.
- ERO Object
 - Defines an BIER-ERO subobjects to carry a adjacencies BitStrings, BSL,subdomain and SI.

BIER Capability Advertisement

- For exchanging BIER capability, a new Path Setup Type (PST) and BIER-TE-PCE-CAPABILITY sub-TLV are required:
 - PST = TBD2: Path is setup using BIER Traffic Engineering technique.
 - BIER-TE-PCE-CAPABILITY sub-TLV

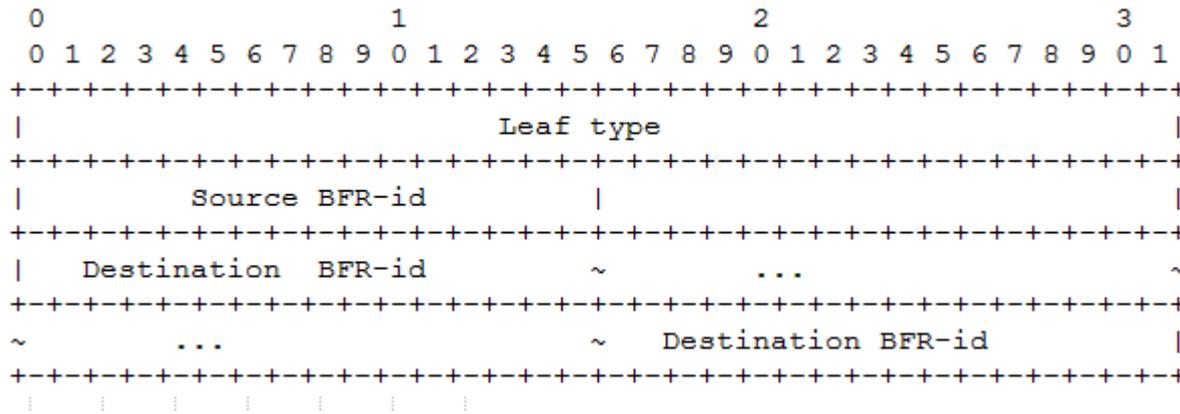


The RP/SRP Object

- In order to setup an BIER-TE, a new PATH-SETUP-TYPE TLV MUST be contained in RP/SRP object.
 - PST = TBD2: Path is setup using BIER Traffic Engineering technique.

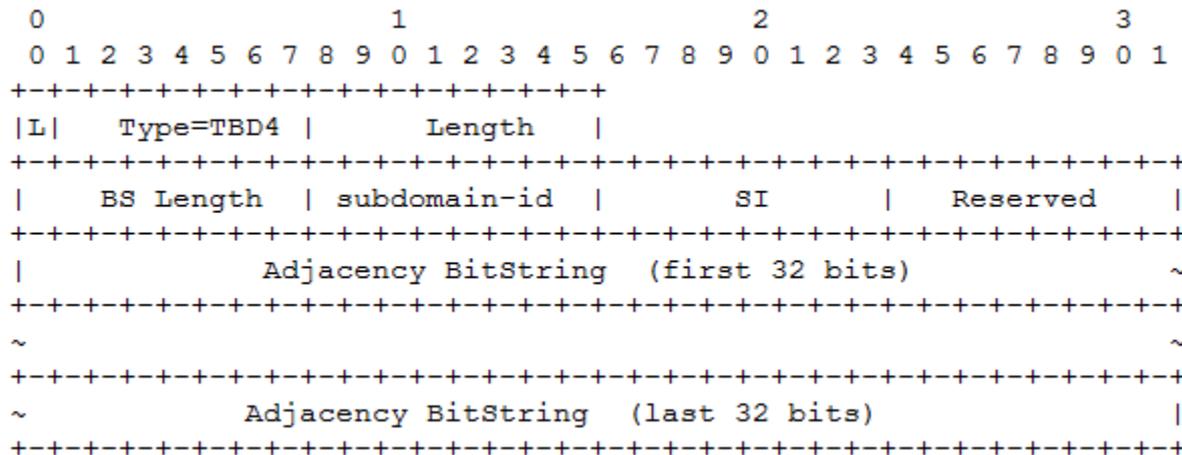
END-POINTS Object

- For specifying the BIER information of the path for which a path computation is requested, END-POINTS object is required, there are two options:
 - Reuses the P2MP END-POINTS object body for IPv4 and END-POINTS object body for IPv6 (Object-Type 4) which is defined in [RFC8306].
 - Optionally, Defines a new BIER END-POINT Object for BFR-id, the format is as follows:



ERO Object

- For carrying BIER-TE explicit paths, a new BIER-ERO subobject is required:



- BS Length :the maximum length of the BitString is 5, it indicates the length of BitString is 1024.
- The maximum value of BS Length is limited to the 1024 bits, in case the BIER-ERO Subobject is too long.

Next Step

- Comments welcome.
- Extend PCECC for BIER-TE.....

Thanks!