Applicability of BIER Multicast Overlay for Adaptive Streaming Services

https://www.ietf.org/id/draft-purkayastha-bier-multicast-http-response-01.txt

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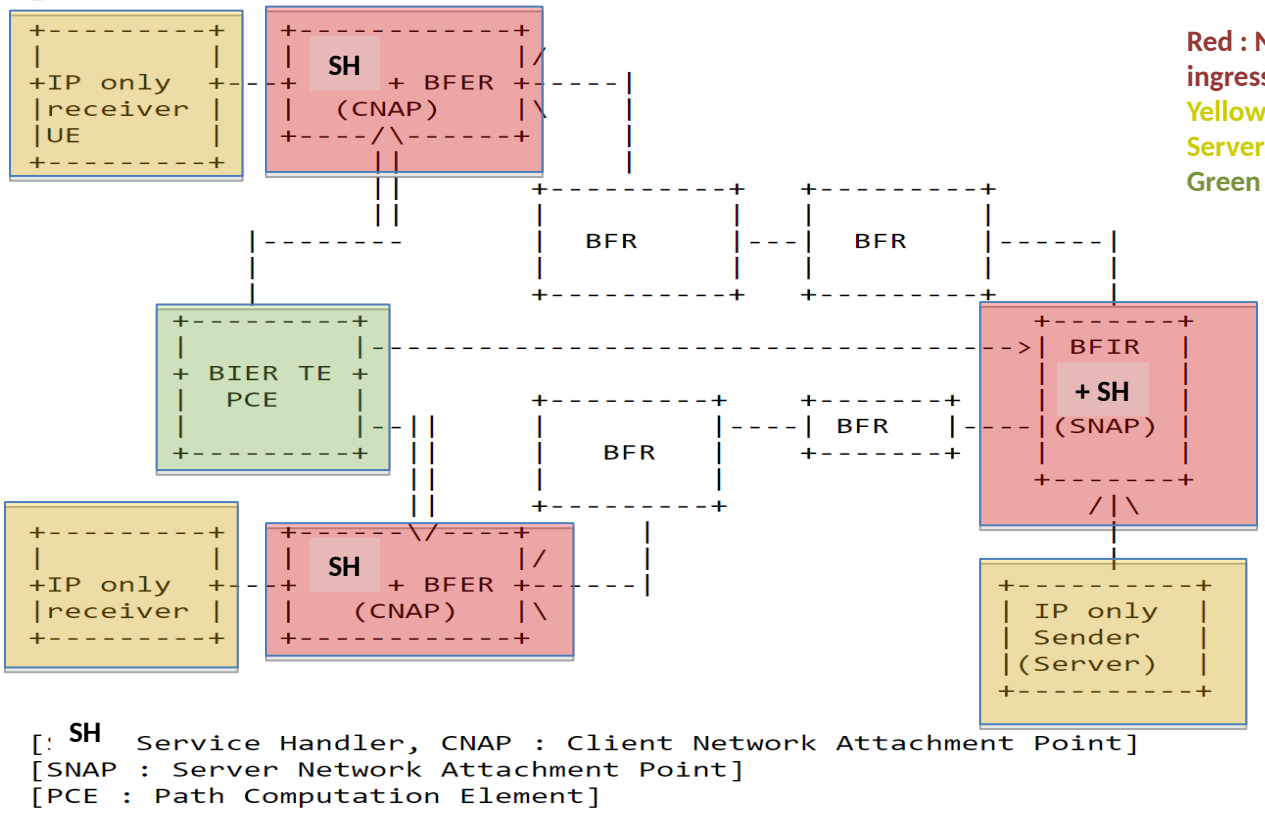
Recap : BIER Multicast Overlay for HTTP Respone, Rev 00

- Example realization of the use case (https://tools.ietf.org/html/draft-ietf-bier-use-cases-06#section-3.10)
- Reference Architecture and Realization of the “multicast overlay” over IPMC and BIER was described
- Pros and Cons for both were considered
- For realization over BIER, operational details including functional elements such as PCE, Service Handler were described

Recap : Reference Architecture over BIER



- The multicast overlay is formed by the BFIR and BFER of the BIER layer and the additional SH (Service Handler) and PCE (Path Computation Element) elements

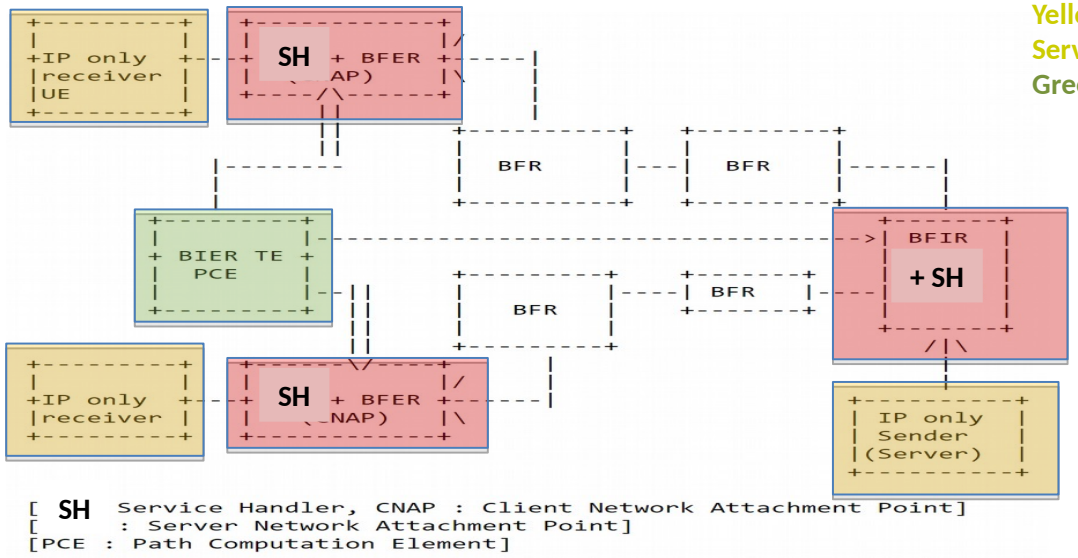
Updates from last draft

- Comments from last IETF meeting were addressed
  - Describe deployment options for SH, BFER, BFIR
  - Describe the work done at DVB and BBF

- Updates to the operational procedure
  - Forwarding mechanisms
  - Clarifying the case for reliable transport

SH deployment options

Red : Network access points at ingress and egress
Yellow : Terminal/Consumer, Server/producer
Green : TE + PCE node



- Based on the comments form last IETF meeting, deployment options for SH function is described.
- SH function is assumed to be collocated with BFIR / BFER, which are typically Routers
- If SH cannot be deployed in the same router, then
  - May be deployed as a separate function outside the router
  - In such scenario an interface between SH and BFIR or BFER needs to be defined.

References to DVB and BBF

- Related to comments from IETF 102 to include details about DVB work, the draft describes certain details of the work:
  - A Multicast gateway is deployed in a CPE, Upstream Network Edge device or Terminal and provides multicast to unicast conversion facilities
  - Interface "L" between Multicast gateway and Content playback supports fetching of all specified types of Content, Conditional request, Range request, Caching etc.
  - BBF is coordinating with DVB and focuses on developing the device management model.
- Similar to IPMC system, where clients requests for specific content.

Next steps

- Will there be interest in the WG to include other use cases apart from streaming? E.g.
  - File replication in CDNs OR SW updates over HTTP

- We suggest to adopt this draft by WG as an Applicability Statement documenting “How BIER can be applied to aggregate HTTP responses over a BIER infrastructure”.