draft-venaas-bier-pfm-sd-00 PIM Flooding Mechanism and Source Discovery for BIER

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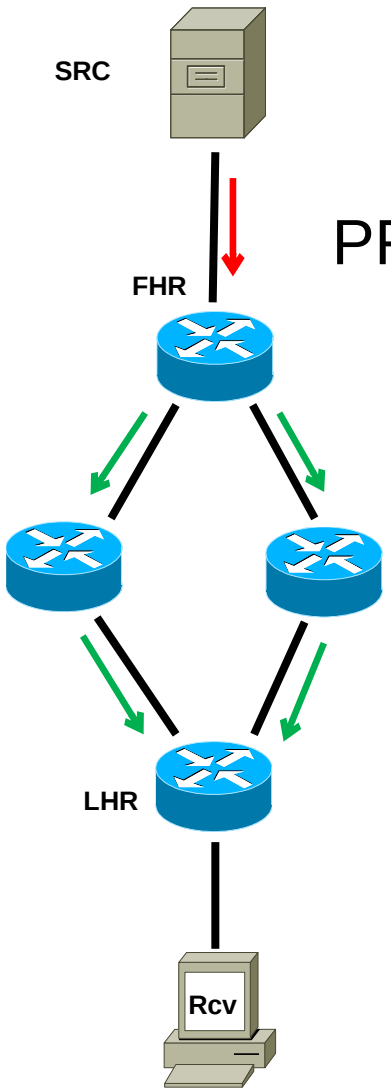
RFC 8364 PFM-SD



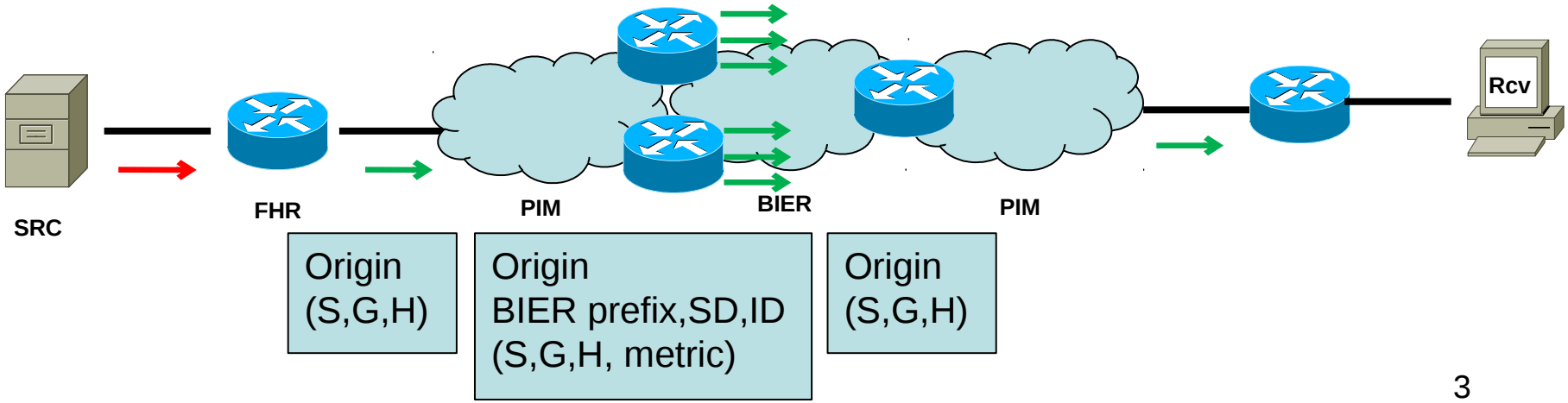
PFM-SD message →

Data →

- Initial data packet detected and dropped by first hop router
- FHR sends triggered PFP-SA message containing (S,G) for the source (but no data)
- PFP-SA forwarded hop by hop throughout the domain
- All routers know about the (S,G)
- LHR can join towards source
- No RPs, no shared trees.

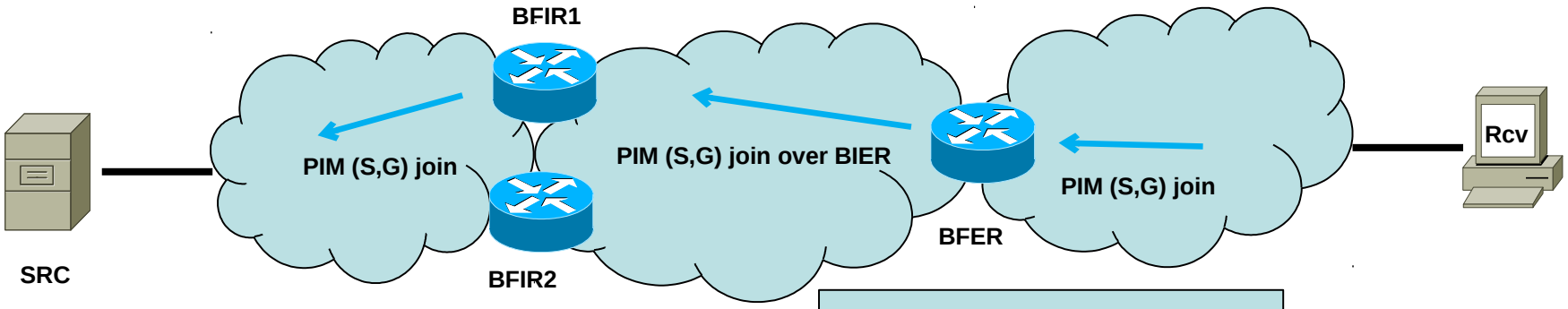
BIER PFM-SD overview

- FHR send message with its originator address and a list of its active sources and their holdtime.
- BIER ingress routers add their BIER prefix, SD and BFR-ID, and metrics for the sources. Replicates to all BIER routers in SD
- BIER egress caches the info, removes BIER info and forwards just the pim info.



BIER PFM-SD PIM joins

- When BFER receives (S,G) join, it looks in cache and sends join over BIER to BFIR with smallest metric; here BFIR1

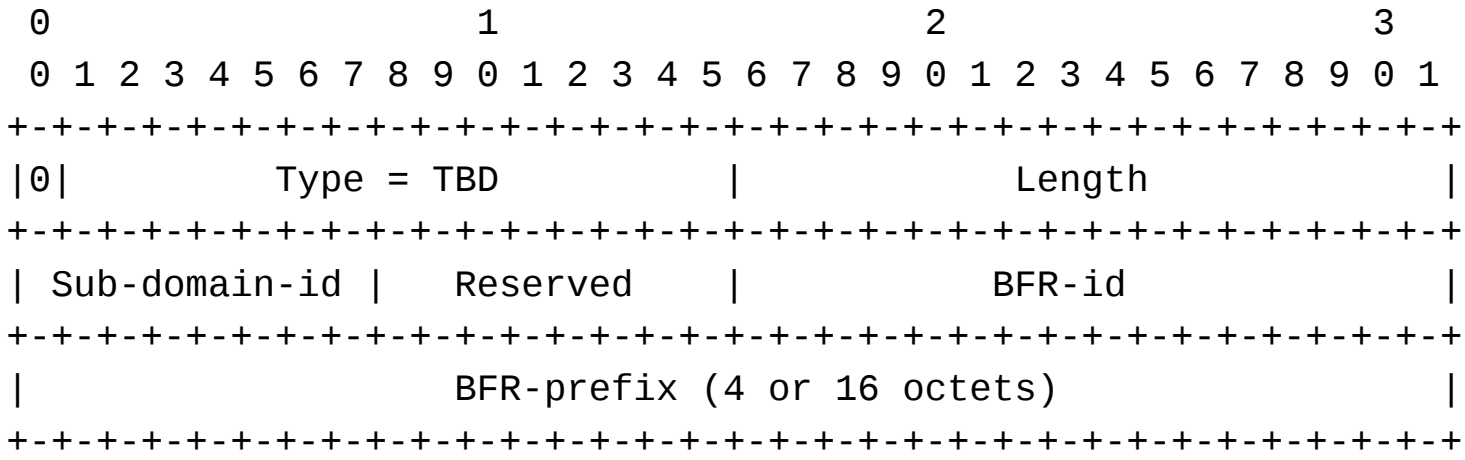


BFER Cache

1. Origin, BFIR1 (S,G,H, metric1)
2. Origin BFIR2 (S,G,H, metric2)

PFM BIER Ingress TLV

- New TLV added by a BIER ingress router (BFIR)
- Contains info needed to signal BFIR. E.g., pim join over BIER



PFM Group, Source, Holdtime, Metric TLV