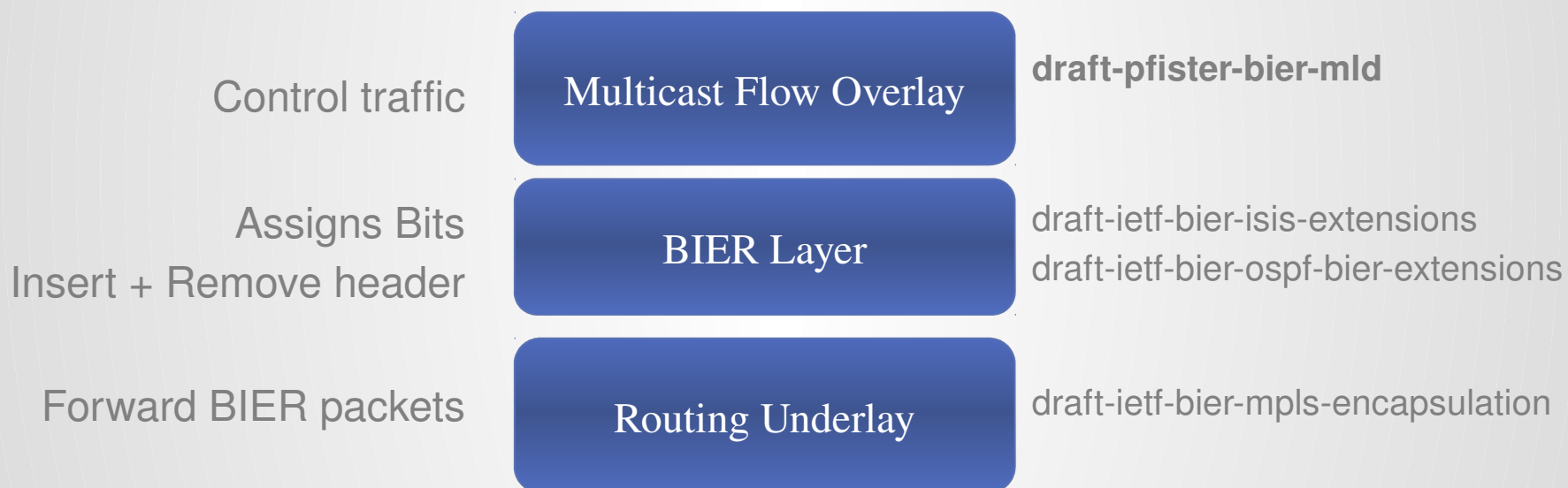


BIER Ingress Multicast Flow Overlay using Multicast Listener Discovery Protocols

draft-pfister-bier-mld-00

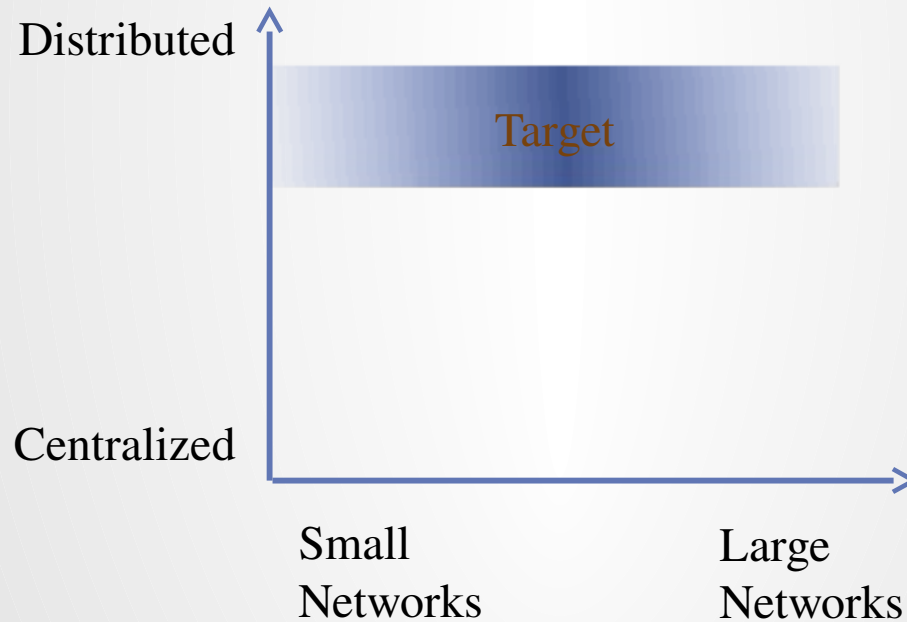
Pierre Pfister – IJsbrand Wijnands – Markus Stenberg

BIER stack status



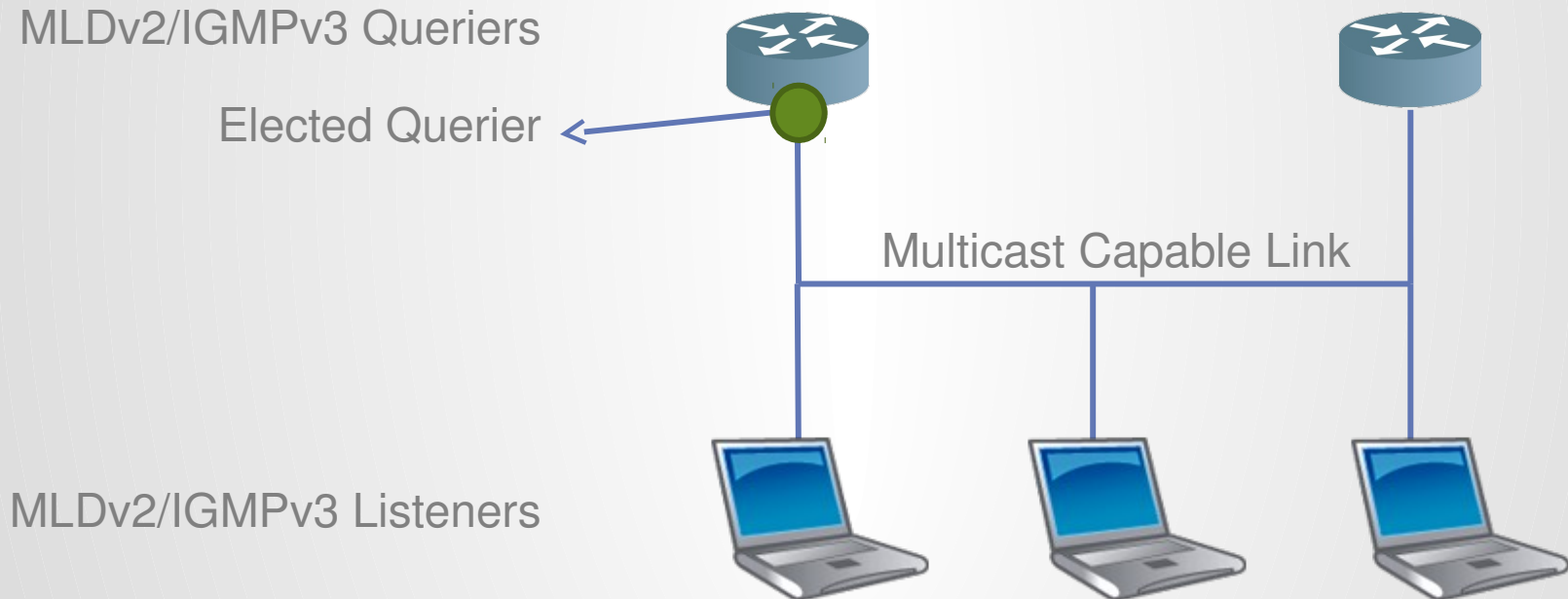
Solution Scope

This proposal does not intend to boil the ocean (or make coffee).



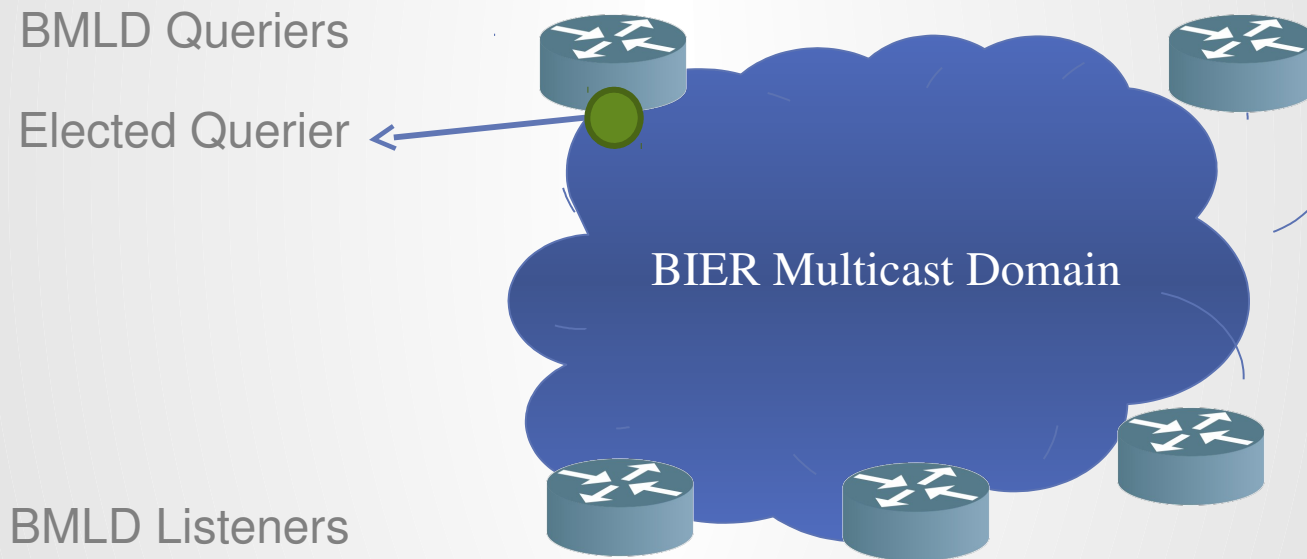
MLDv2 / IGMPv3

- Relies on **all-nodes + all-queriers multicast** on a **single multicast capable link**



BMLD

- Relies on **all-BMLD-Nodes + all-BMLD-Queriers** multicast in a **single BIER domain**



Configuration Parameters

- A multicast address for **BMLD-All-Queriers** (Traffic Ingress)
 - A multicast address for **BMLD-All-Nodes** (Traffic Egress + Ingress)

 - **BFR-ID** of BMLD Queriers
 - **BFR-ID** of BMLD Listeners
- Could be dynamic (Advertised with BFR-IDs...)
- Configure the BIER Layer with such info.
 - To be able to send packets to BMLD-All-Queriers and BMLD-All-Nodes multicast groups.

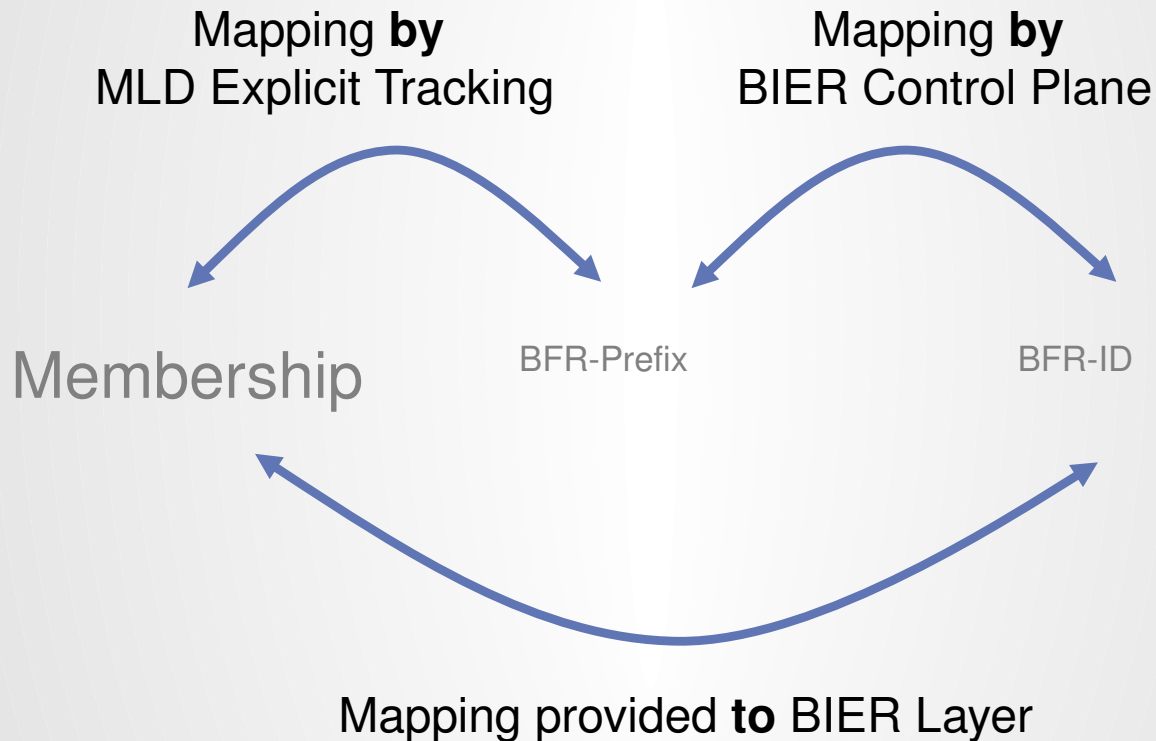
Functioning details

- Send BMLD Queries with:
 - BMLD-All-Nodes destination group address
 - Sender's BFR Prefix Address source address
 - No hop-by-hop Alert Option

- Send BMLD Reports with:
 - BMLD-All-Queriers destination group address
 - Sender's BFR Prefix Address source address
 - No hop-by-hop Alert Option

- Queriers do MLDv2/IGMPv3 processing with explicit tracking.

Forwarding entering packets



Open Issues

- Prevent duplicated traffic from entering the network
 - A forwarder could subscribe to traffic and react when duplicated traffic is detected (Tie breaking with BFR-Prefix – No more signaling required).
 - Define messages ? Extension to MLDv2 ?

- Prevent duplicated packet from leaving the network
 - Handled by the next-domain flow overlay ?

Thanks

Questions ?