BGP EVPN Flood Traffic Optimization at EVPN Gateways

https://tools.ietf.org/html/draft-mohanty-bess-evpn-bum-opt-01

S Mohanty, M Ghosh and

Sandy Breeze

Ali Sajassi

Claranet

Cisco

Jim Uttaro

AT&T

Related EVPN Multicast work

- https://tools.ietf.org/html/draft-ietf-bess-evpn-igmp-mld-proxy-04
  - IGMP proxy procedures over EVPN
- https://tools.ietf.org/html/draft-ietf-bess-evpn-per-mcast-flow-df-election-02
  - Per Multicast Flow DF Election
- https://tools.ietf.org/html/draft-ietf-bess-evpn-optimized-ir-06
  - Optimized Ingress Replication in NVO networks
- https://datatracker.ietf.org/doc/draft-ietf-bess-evpn-bum-procedure-updates/
  - Exhaustive handling of BUM traffic including Selective Multicast and Provider Tunnel Segmentation
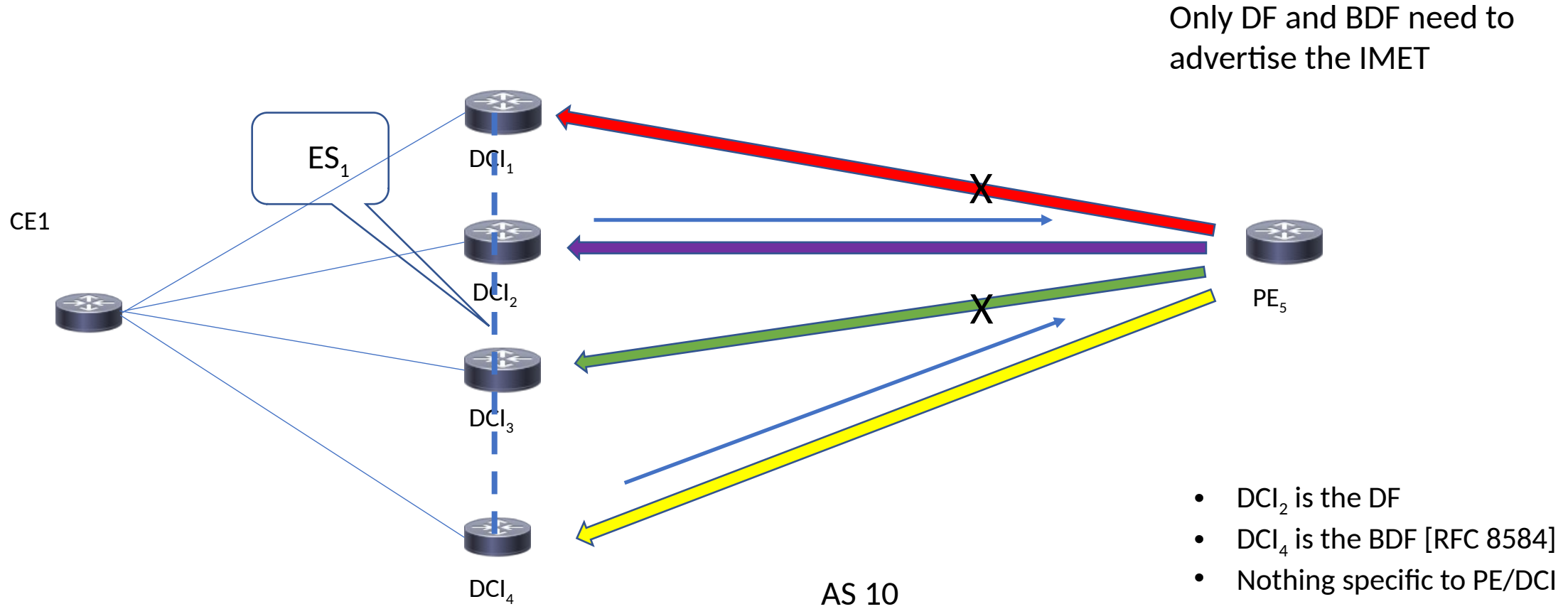
This draft is relevant for specific cases (we will put this in next version)
- BUM traffic in IR
- BDs with no igmp/mld/pim proxy
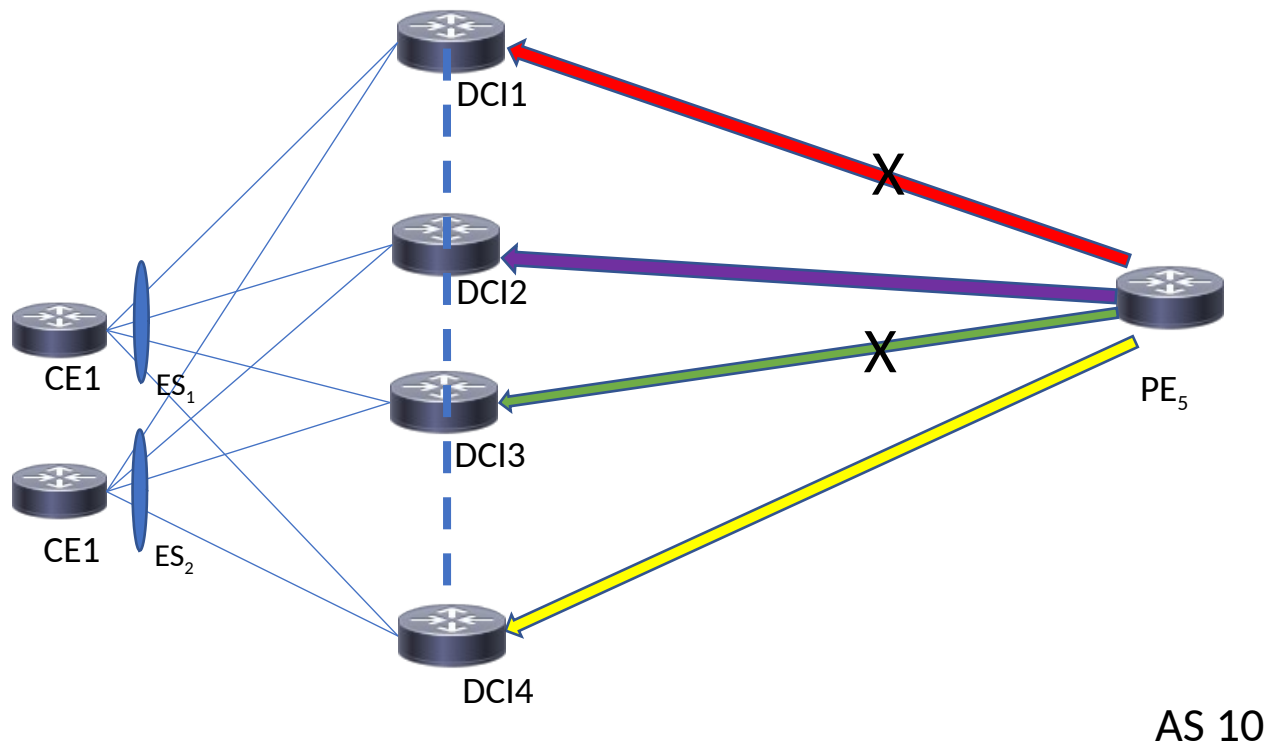- BDs with no OISM or IRBs

CE1

PE$_1$

PE$_2$

PE$_3$

PE$_4$

PE$_5$

- PE$_2$ is the DF
- PE$_4$ is the BDF [RFC 8584]

AS 10
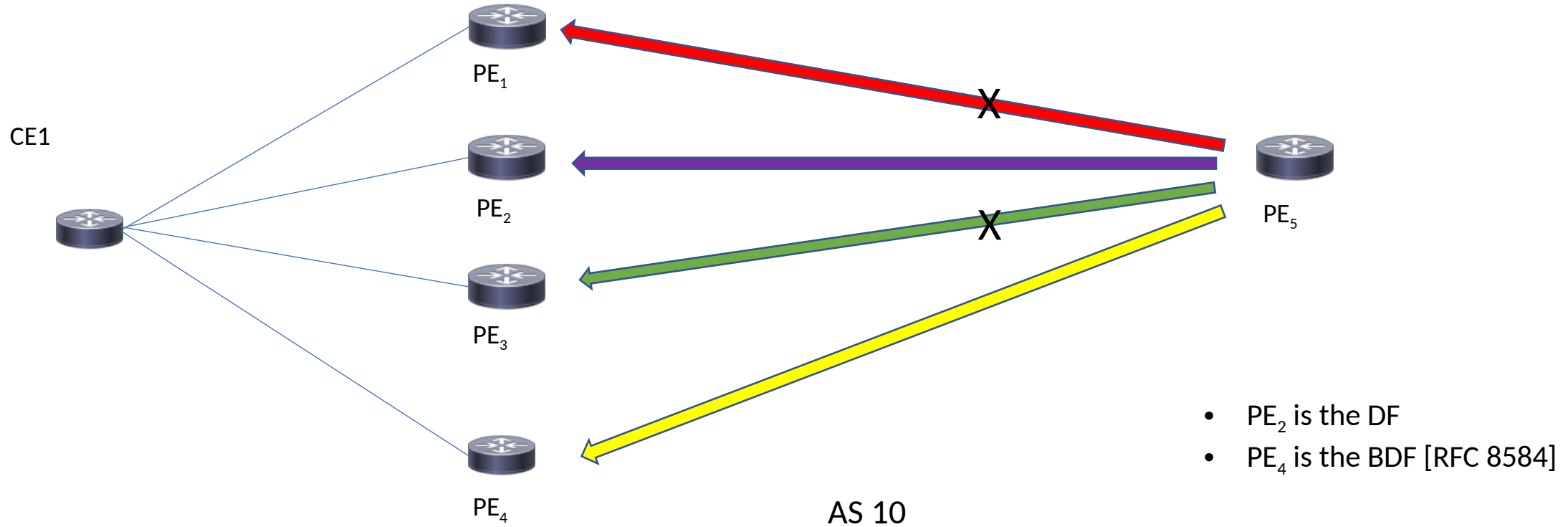
CE multi-homed to PEs: Do not send the BUM traffic to whoever does not need it

Only DF and BDF need to advertise the IMET

CE1

ES$_1$

DCI$_1$

DCI$_2$

X

PE$_5$

DCI$_3$

X

DCI$_4$

AS 10

- DCI$_2$ is the DF
- DCI$_4$ is the BDF [RFC 8584]
- Nothing specific to PE/DCI

DCI Use-case: Do not send the BUM traffic to whoever does not need it

RFC 8584: "If the same set of PEs are multihomed to the same set of ESes, then the DF election algorithm used in [RFC7432] would result in the same PE being elected DF for the same set of BDs on each ES; this could have adverse side effects on both load balancing and redundancy. Including an ESI in the DF election algorithm introduces additional entropy, which significantly reduces the probability of the same PE being elected DF for the same set of BDs on each ES. Therefore, when using the HRW algorithm for EVPN DF election, the ESI value in the Weight function below SHOULD be set to that of the corresponding ES."

CE1
ES$_1$
CE1
ES$_2$
DCI1
DCI2
DCI3
DCI4
PE$_5$

AS 10

- In this draft however, we **mus**t **NOT** include ES in the HRW Weight Function
- Perhaps a knob?

Inter-AS Case

- Now new changes need to be done for the Inter-AS Option B case.

- Should be able to leverage https://datatracker.ietf.org/doc/draft-ietf-bess-evpn-bum-procedure-updates/