BIER Flooding
## draft-zhang-bier-flooding-00

BIER WG

IETF100# Singapore

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Problem Statement

- Hybrid Network

- Different routing protocol runs in different region. Even static routing is used.

- There are tens of routers in every region. There is only one hop forwarding in some regions.

- Border router must convert BIER encapsulation.

- Multiple BIER encap/decap functions.

- Bier forwarding runs inefficiently in this kind of network.

MR1

MR2

ISIS

MR3

MR4

Bier domain 1

B1

B2

OSPF

Bier domain 2
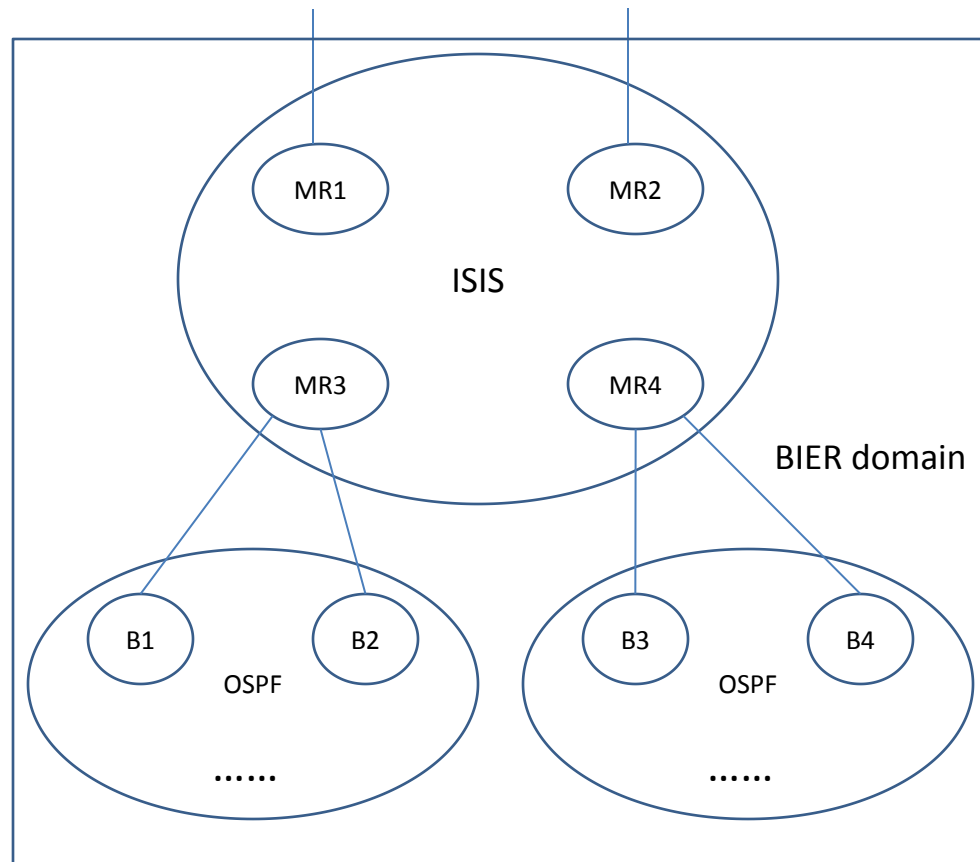......

B3

B4

OSPF
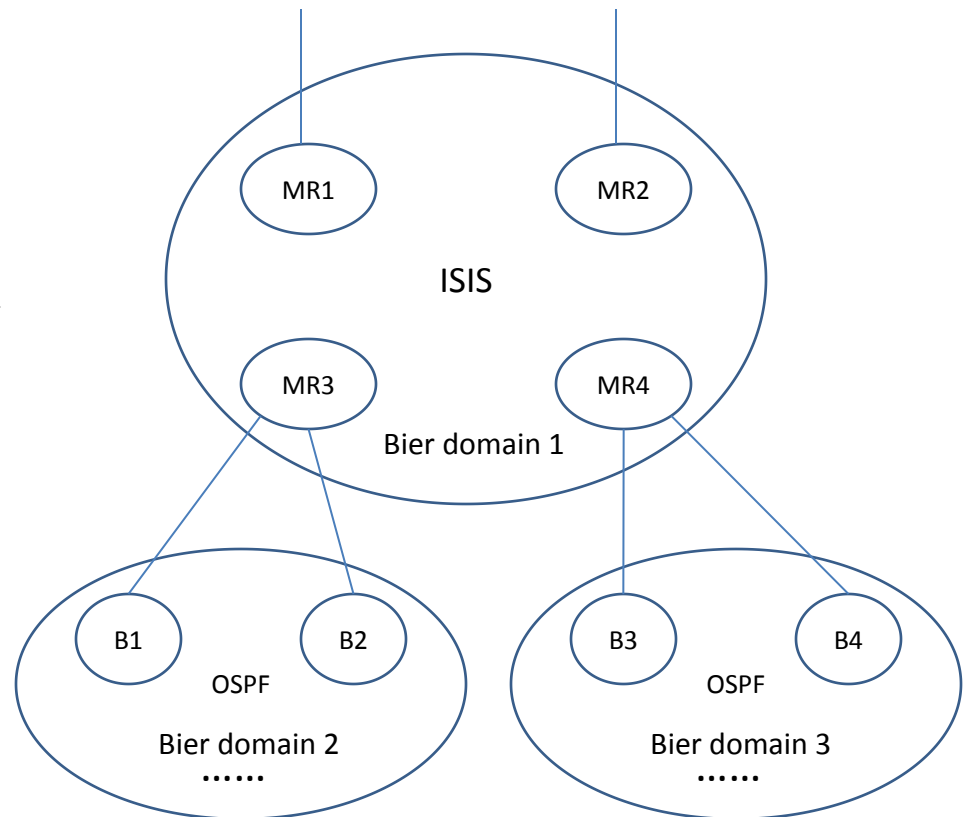
Bier domain 3
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Problem Statement

- Merge several regions into one BIER domain.

- Decrease the times of BIER encap/decap. Improve BIER forwarding efficiency.

But how to build BIER forwarding across multiple routing regions?

- Conversion in border routers add more complexity.

Solution

- A protocol independent flooding mechanism.

- BIER node information floods in the whole BIER domain across multiple regions.

- PIM Flooding Mechanism (PFM) defined in
  draft-ietf-pim-source-discovery-bsr is used to flood BIER node information for building BIER forwarding plane.

- New extensions aligned with OSPF/ ISIS/ BGP are used to deliver BIER nodes information.

- Every nodes in domain build BIER forwarding plane according to the flooding BIER nodes info and it's FIB(Forwarding Information Base) without the dependent of IGP/BGP routing computing.

Clarification

- If this draft tries to replace OSPF/ ISIS/ BGP BIER extension?

-----No! This function is just a supplement of routing protocol extension. Especially in hybrid environment.

- BIER eliminates PIM protocol states in core domain, is this draft backward?

-----No! We just use the flooding function to delivery BIER nodes information. We do not use PIM protocol to build multicast trees.

- Any comments are welcome ☺

Thanks!