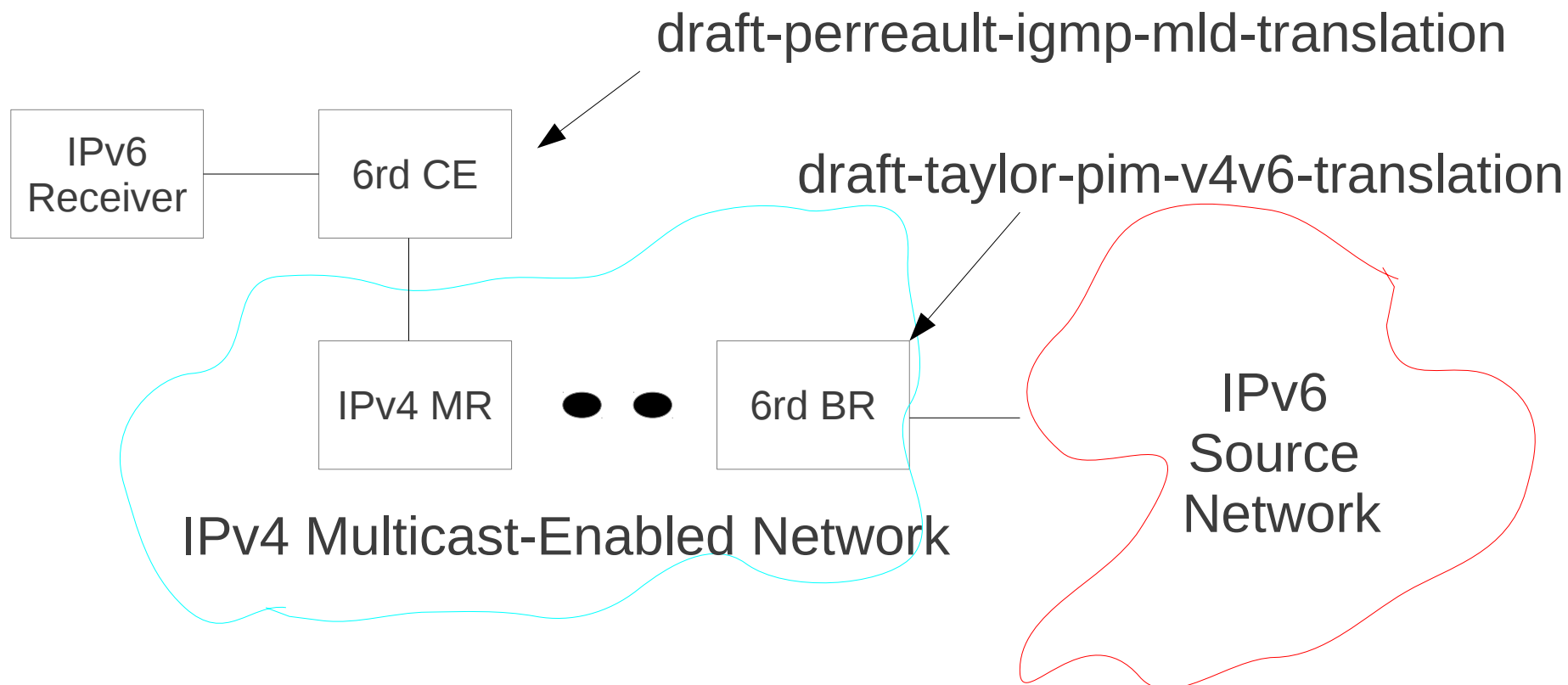


Multicast For 6rd Assuming IPv4 Network Is Multicast-Enabled

draft-tsou-softwire-6rd-multicast-01.txt

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Basic Principle



- Similar to DS-Lite solution
- Challenging part is need for general IPv6-IPv4 address mapping at 6rd BR and maybe 6rd CE

Side Effects of Choice Between Translation and Encapsulation of Multicast Data

- Translation of multicast data packets at 6rd BR decouples IPv4-v6 address mapping at 6rd BR from IPv4-v6 mapping at 6rd CE
 - As a result, can use stateless mapping at 6rd CE
- Encapsulation of multicast data packets at 6rd BR forces 6rd CE to use same mapping as 6rd BR when mapping from MLD to IGMP in the control plane

Illustrated on the next two charts

Using Translation At the 6rd BR

- Program guide supplies <S6embed, G6embed> to receiver.
- Receiver sends MLD request for <S6embed, G6embed> to 6rd CE
- 6rd CE extracts embedded IPv4 addresses and uses them in IGMP signalling
- 6rd BR maps IPv4 addresses to <S6orig, G6orig> when translating to PIMv6
- Data packet headers mapped to same IPv4 address pair at 6rd BR
- 6rd CE reconstructs <S6embed, G6embed> from IPv4 address pair

Using Encapsulation At the 6rd BR

- Program guide supplies <S6orig, G6orig> to receiver.
- Receiver sends MLD request for <S6orig, G6orig> to 6rd CE
- 6rd CE uses same mapping from IPv6 to IPv4 as 6rd BR to derive IPv4 addresses and uses them in IGMP signalling
- 6rd BR maps IPv4 addresses back to <S6orig, G6orig> when translating to PIMv6
- 6rd BR uses reverse mapping to determine IPv4 addresses for encapsulating multicast data packet
- 6rd CE decapsulates, does not have to map addresses in multicast data packet headers.