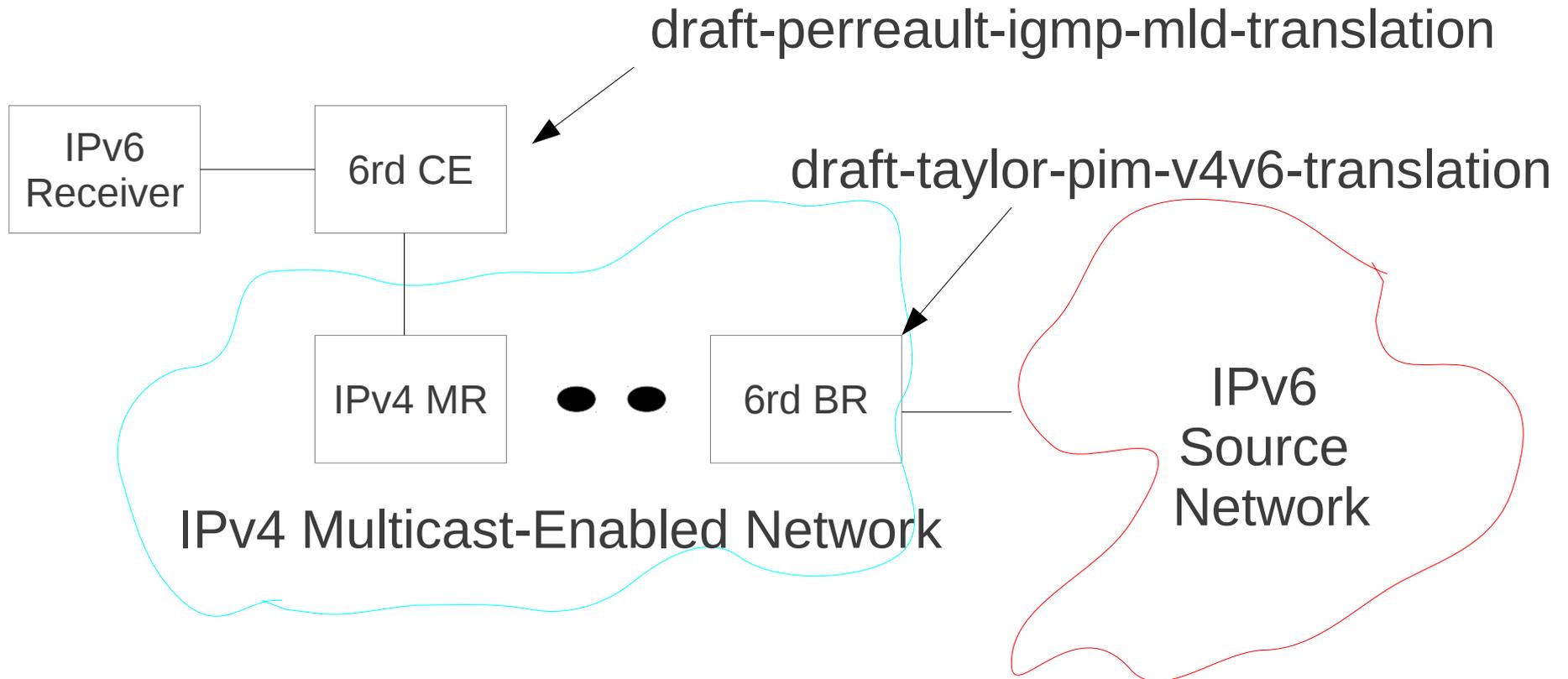


# Multicast For 6rd Assuming IPv4 Network Is Multicast-Enabled

draft-tsou-software-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.