

# Multicast Extensions to DS-Lite Technique in Broadband Deployments

*draft-qin-softwire-dslite-multicast-03*

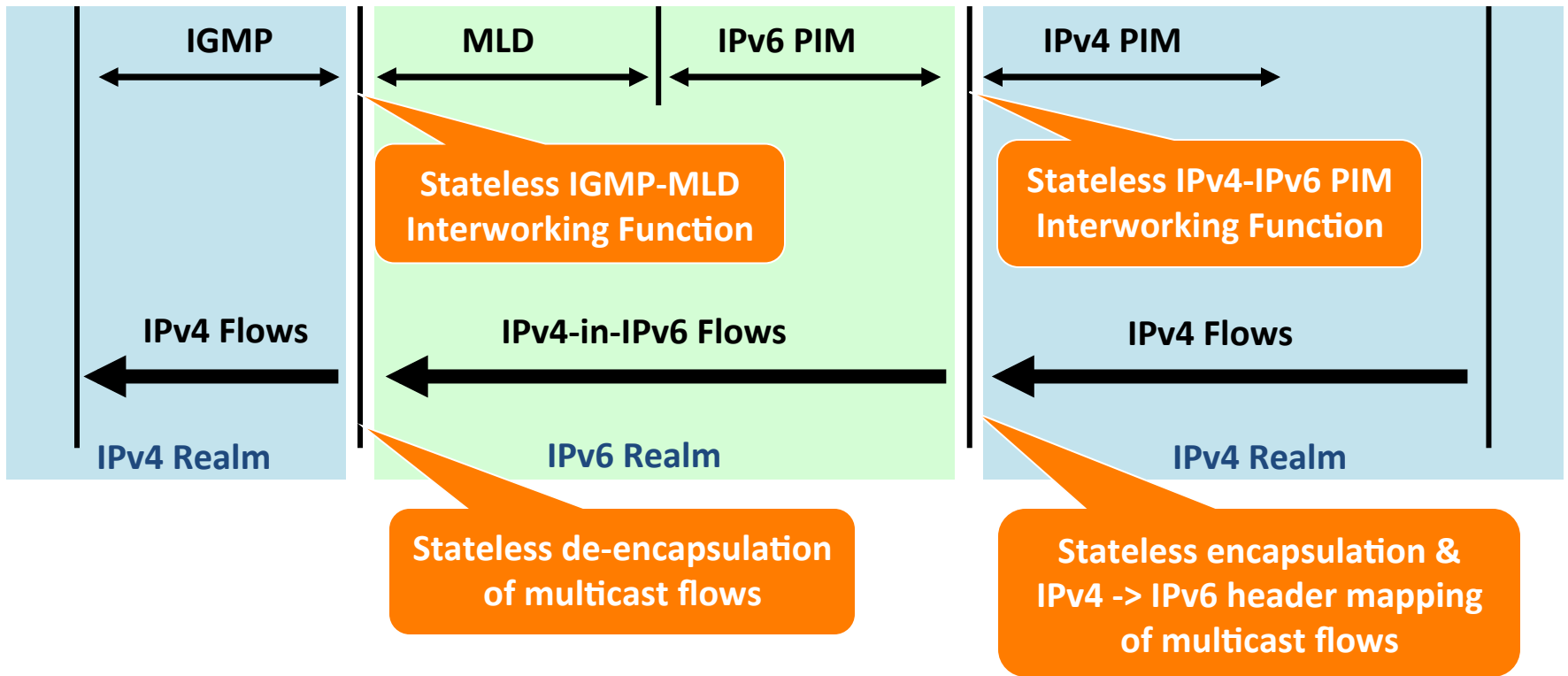
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# Context & Use Cases

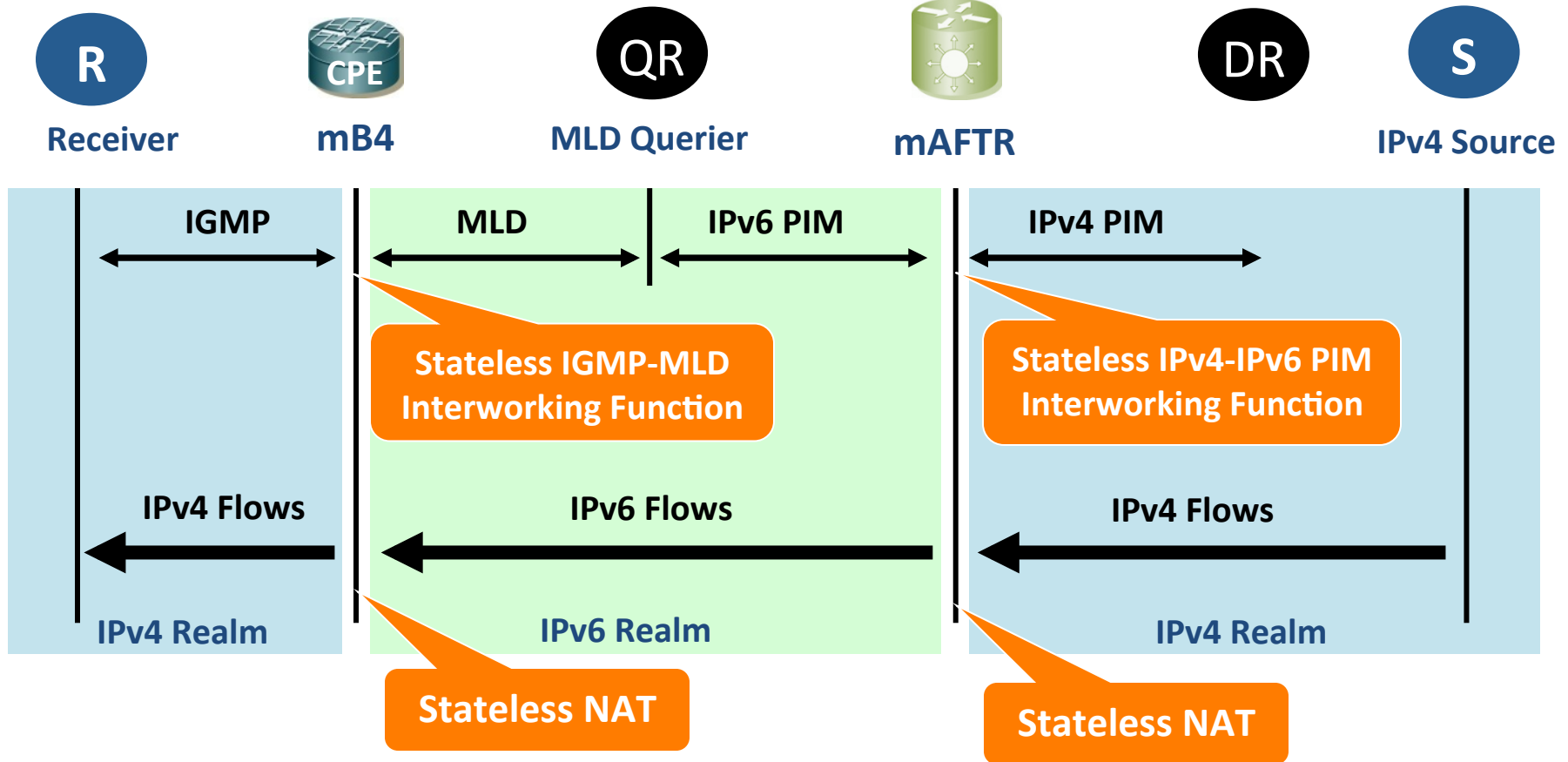
- Context
  - Deliver multicast-based service offerings to DS-Lite serviced customers in ASM and SSM modes
- Use Cases
  - IPv4 receiver accessing to IPv4-formatted multicast content
  - Dual-Stack receiver accessing to IPv4-formatted multicast content

# Foundations

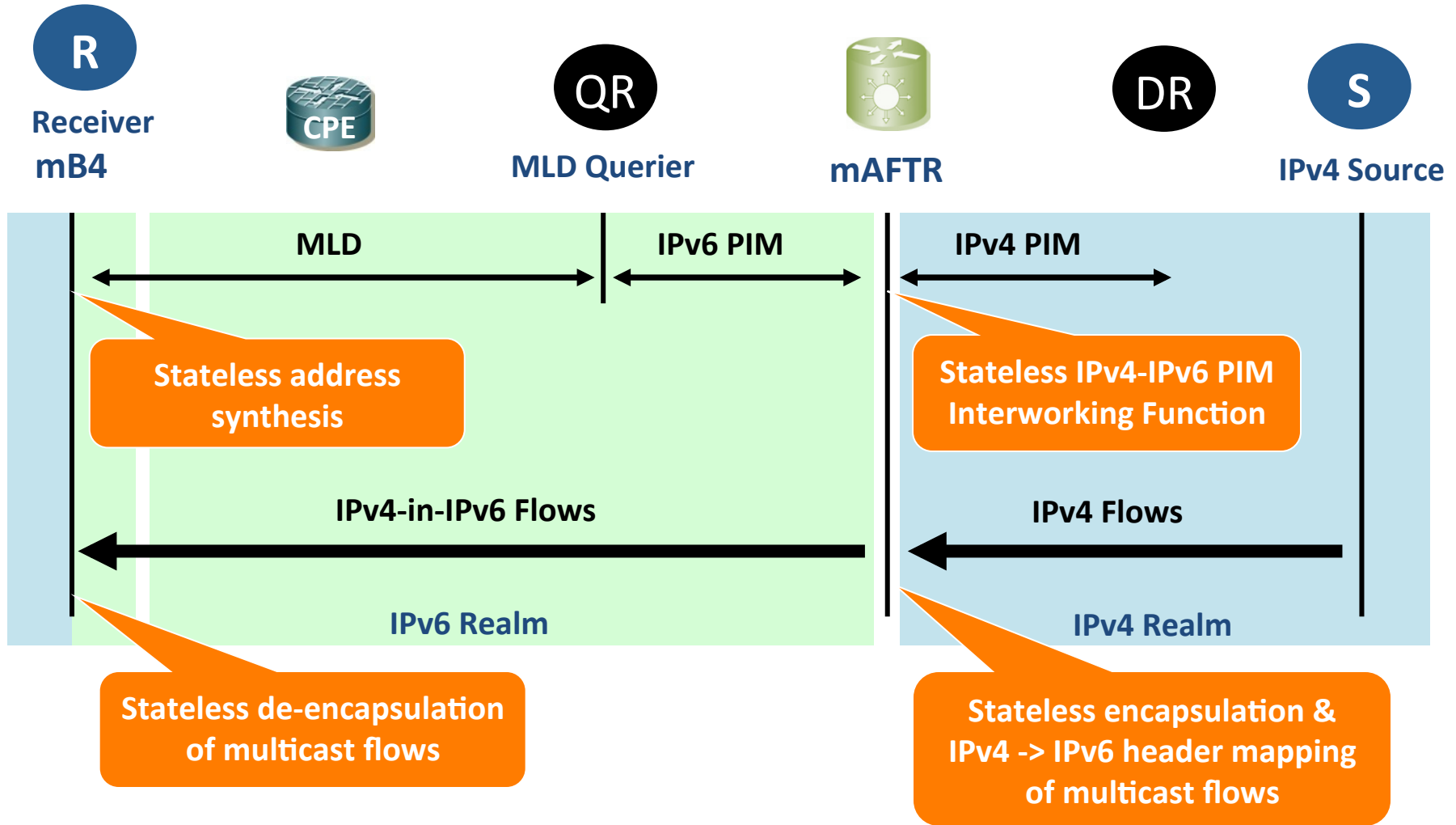
- Address Building
  - Use [*I-D.boucadair-behave-64-multicast-address-format*] to build **multicast** IPv4-embedded IPv6 addresses
  - Use [*RFC6052*] to build **unicast** IPv4-embedded IPv6 addresses representing IPv4 sources in the IPv6 realm
- The underneath network delivers encapsulated packets **in standard multicast fashion**
  - L2 optimization functions can be used
- All involved interworking functions are **stateless**



**Overall** procedures with involved interworking functions:  
 Need to provision the mB4 with mPREFIX64 and uPREFIX64



to assess the information loss and the performance impact on the CPE



**mB4** is embedded in the receiver host (e.g., STB). This mode is suitable for deployments using CPEs with low resources

# Multicast Routing

- In the IPv4 side: Transparent
- In the IPv6 side
  - For the sake of simplicity, it is RECOMMENDED to configure an mAFTR as the RP for IPv4-embedded IPv6 multicast groups
  - 
  - RP
  - The PIM Source Register procedure in the IPv4 domain is not altered
- SSM and SPT modes are supported

# Fall-Back Mode

- If MLD is not activated on mB4, and if this is allowed in the CPE, multicast flows may be exchanged in a Fall-Back mode
  - Based on the Unicast DS-Lite architecture where the IGMP messages are encapsulated and transmitted through the tunnel
  - The AFTR will perform the IGMP Querier function
- The AFTR will perform the IGMP Querier function
  - The Fall-Back mode is not optimal if the unicast AFTR is not the first IP node.
    - **NOT RECOMMENDED** When the AFTR is not located in the first IP node, this mode is



# Next Step

- Comments?
  - <http://tools.ietf.org/html/draft-qin-softwire-dslite-multicast-03>  
**Comments?**

**Thank You!**