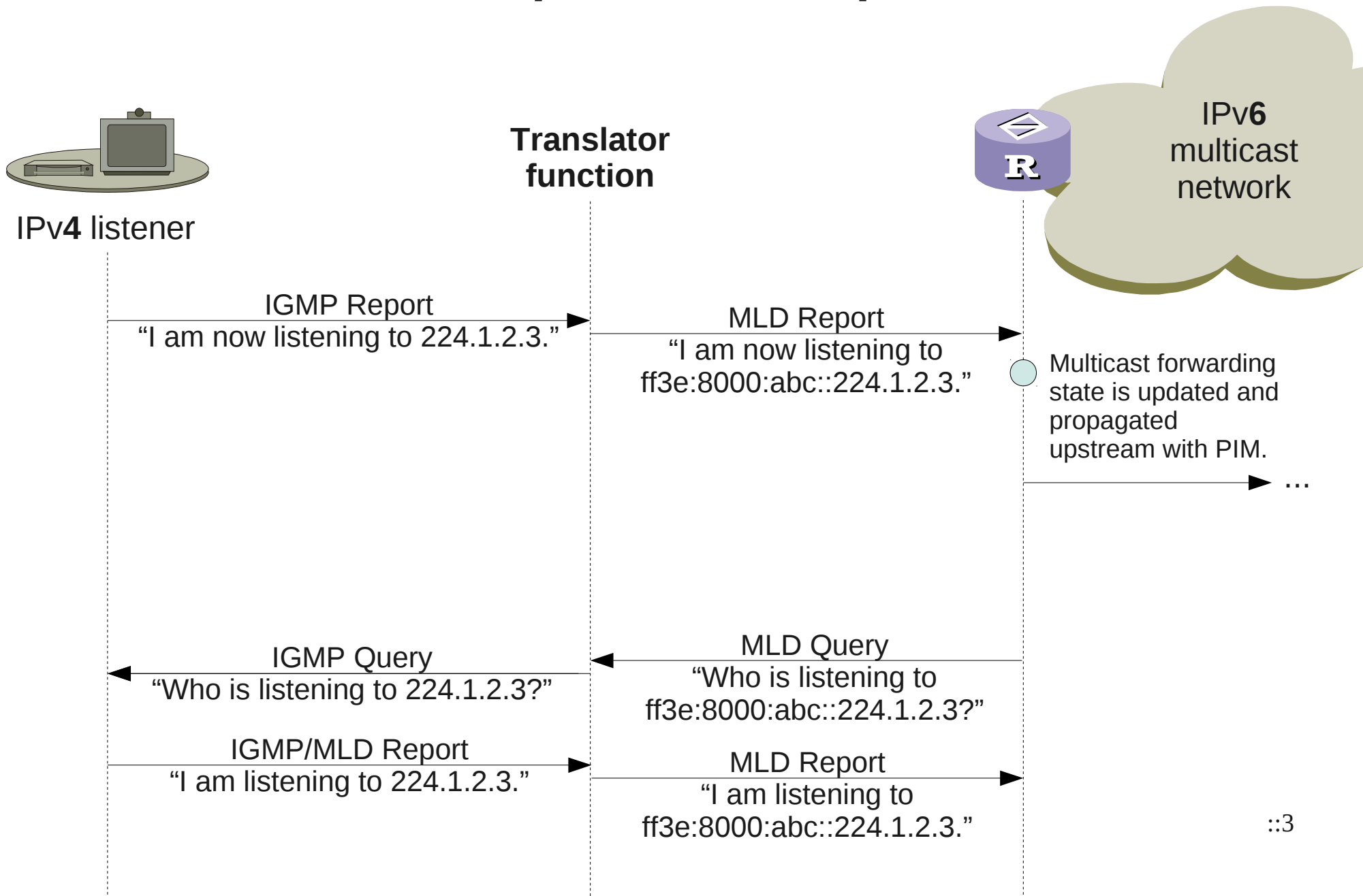# draft-perreault-mboned-igmp-mld-translation-00

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PIM WG meeting
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Overview

- Used in various scenarios where listener is IPvX-only and network is IPvY-only.
  [draft-jaclee-behave-v4v6-mcast-ps-03]
  [draft-eubanks-mboned-transition-overview-04]

- Translate IGMPv{1,2,3} ↔ MLDv{1,2}

- Specified as stateless "bump in the wire".

- Translation function can be performed by listener, by proxy, by multicast router, or by a separate device.

- Stateless address mapping
  [draft-ietf-mboned-64-multicast-address-format]

    - Translation of arbitrary IPv6 source addresses is **not** supported. (Would require statefulness.)

- Supports dual stack listeners.

A simple example

IPv4 listener

Translator function

IPv6 multicast network

IGMP Report
"I am now listening to 224.1.2.3."

MLD Report
"I am now listening to ff3e:8000:abc::224.1.2.3."

Multicast forwarding state is updated and propagated upstream with PIM.

…

IGMP Query
"Who is listening to 224.1.2.3?"

MLD Query
"Who is listening to ff3e:8000:abc::224.1.2.3?"

IGMP/MLD Report
"I am listening to 224.1.2.3."

MLD Report
"I am listening to ff3e:8000:abc::224.1.2.3."

::3

Details

- Well-known multicast address equivalences between IPv4 and IPv6.
- Message type equivalences between IGMPv{1,2,3} and MLDv{1,2}.
- Translation needs to be performed logically on upstream interface of proxy so as not to mess with Querier elections.
- Router Alert
  - IPv4 option ↔ Hop-by-Hop IPv6 extension header
  - Send on output IFF it was received on input.
  - Set value to zero unconditionally.
- Reports with unsolicited source address need to be handled differently for IGMP vs MLD.
- Allocation of a "Translated" bit in IGMPv3 and MLDv2 Queries and Reports.
- Formulas for the conversion of MRD↔MRT with or without loss of precision.
- Preservation of Additional and Auxiliary Data.
- MTU considerations... *sigh*
- Data plane handled according to RFC6145.

Next steps

- Questions? Comments?
- Adopt in PIM WG?