

Dual-Stack PIM With Translation

draft-taylor-pim-v4v6-translation-02

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Context

- PIM router
- Both IPv4 and IPv6 local hosts
- Both IPv4 and IPv6 PIM peers
- At least some addresses (source, group) can be mapped between IPv4 and IPv6 in either direction
 - Actual mapping could be static or stateless – not a primary consideration
- MRIB has both IPv4 and IPv6 routes

Status

- Still trying to pin down “MUSTs”
- Model in version -02 a distraction – too tied to potential implementations
- However, some points becoming clearer

The possibility that some or all source or group addresses can be mapped between IPv4 and IPv6 does introduce new requirements on PIM operation.

Basic Requirements

- If downstream state is added in one IP version, router has to be able to recognize if upstream state for same stream is already present in the other version.
- Similarly, Assert logic has to recognize when same stream is being received in two versions.
 - *Still have to think through Assert logic under these circumstances.*
 - *May have issue of metric comparability for two versions, or may need Assert resolution for each version separately.*

Basic Requirements cont'd

- As discussed last meeting, Prune has to be sent in the same version as the preceding Join.
- Also, possible that Join sent in one stage has different IP version from Join sent in another stage.
- Hellos have to be sent out in both versions, with respective configured secondary addresses, translation does not apply.

Route Selection

- Selection of RPF neighbour for Joins now has to decide on IP version to use.
- Agreed at last meeting that choice may depend on local policy, heuristics. Possible criteria:
 - routing metrics, if comparable
 - minimize translation

Looking Ahead

- Restrict this document to implications for PIM when address mapping is possible.
- Could easily generalize to other forms of PIM, not just PIM-SM. Should we do it?
- Document processing of multicast data packets in a separate draft.

Comments?