PIM Assert Message Packing
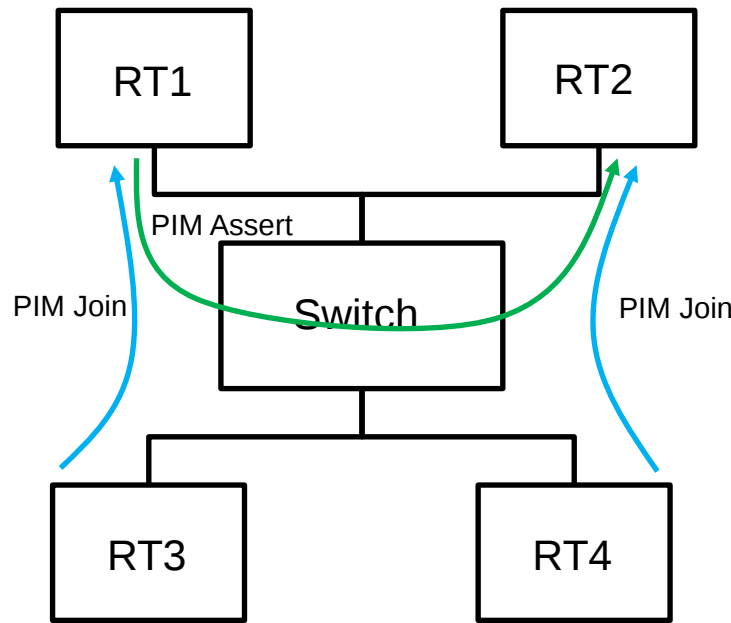
draft-ietf-pim-assert-packing-01

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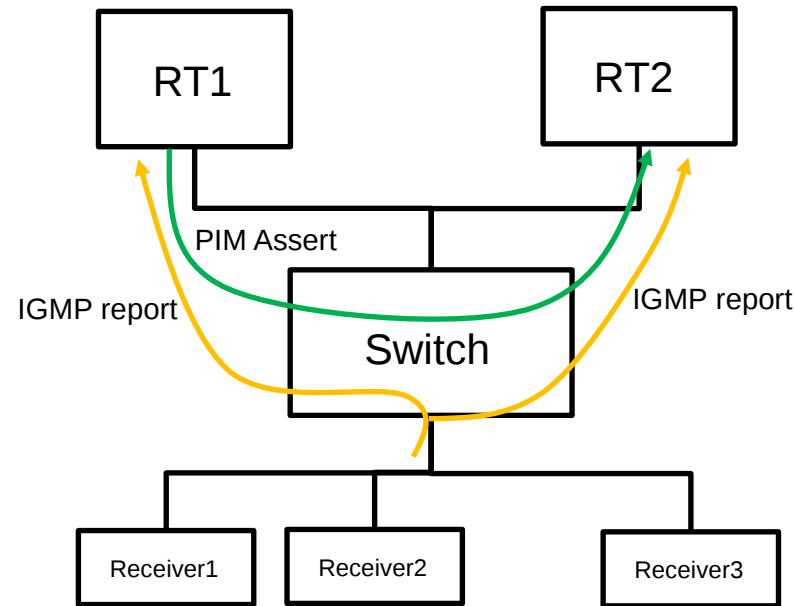Zheng Zhang (ZTE)

IETF110

Problem Statement Review

PIM Assert Message

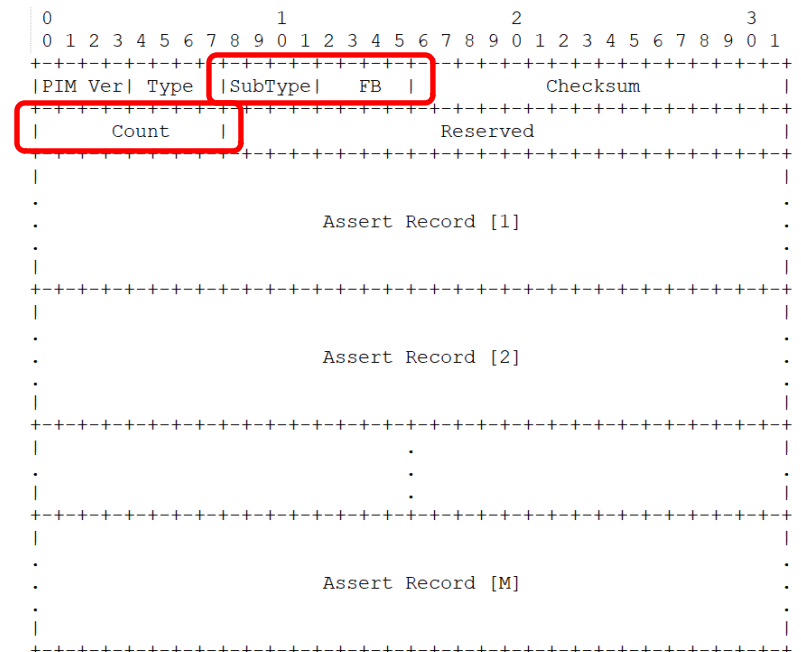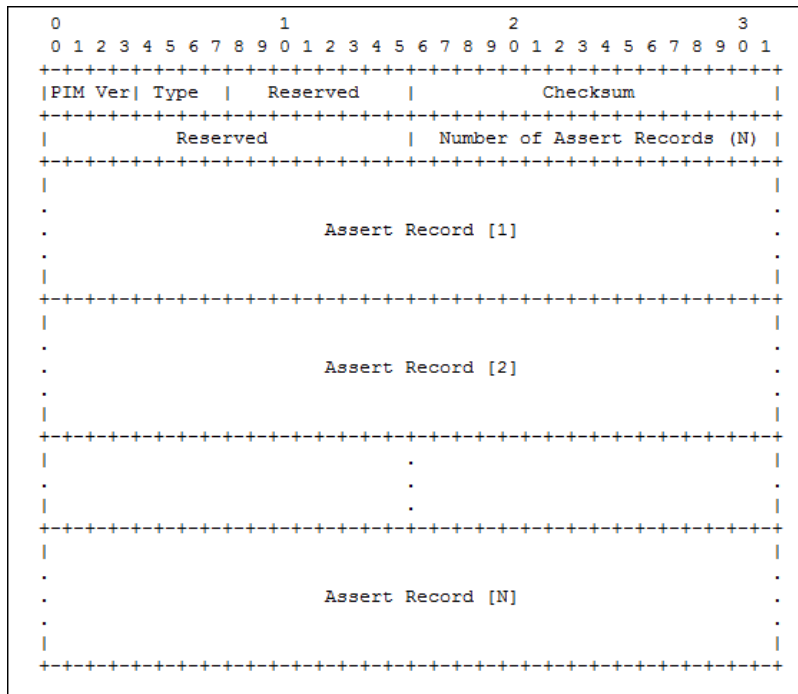| PIM Assert Message |
|---|
| Group Address |
| Source Address (all 0 means *G) |
| RPT bit |
| Metric Preference |
| Route Metric |

PIM Assert in Network Side

PIM Assert in Host Side

- As the multicast service becomes widely deployed, the number of multicast entries increases, and a large number of assert messages may be sent in a very short period when multicast data packets trigger PIM assert process in the shared networks. The PIM routers need to process a large number of PIM assert small packets in a very short time.
- As a result, the device load is very large. The assert packet may not be processed in time or even is discarded, thus extending the time of traffic duplication in the network.

Solution Overview Review

- No change to the PIM Assert state machine
- PIM Hello Option extension for Assert packing
  - Negotiation of the assert packing capability
- PIM Assert Simple packing solution
- PIM Assert Aggregating packing solution

Update 1: PIM Assert Packing Format

The format is updated to align with the format defined in RFC8736 and draft-ietf-pim-null-register-packing

Update 2: PIM Assert Timer Analysis

No effect on the existed Assert Timer for (*,G) and (S,G).

- When the assert winner sends the assert message due to the local periodic timer expiration
- PIM (*,G) and (S,G) which are expired at the same time (depending on the implementation of time accuracy) will be sent by packing message instead of individual message.

Next Step

- Add operations of assert packing
- Any further comments are welcomed