

An Enhancement of PIM-SM

draft-meng-pim-sm-enhancement-01

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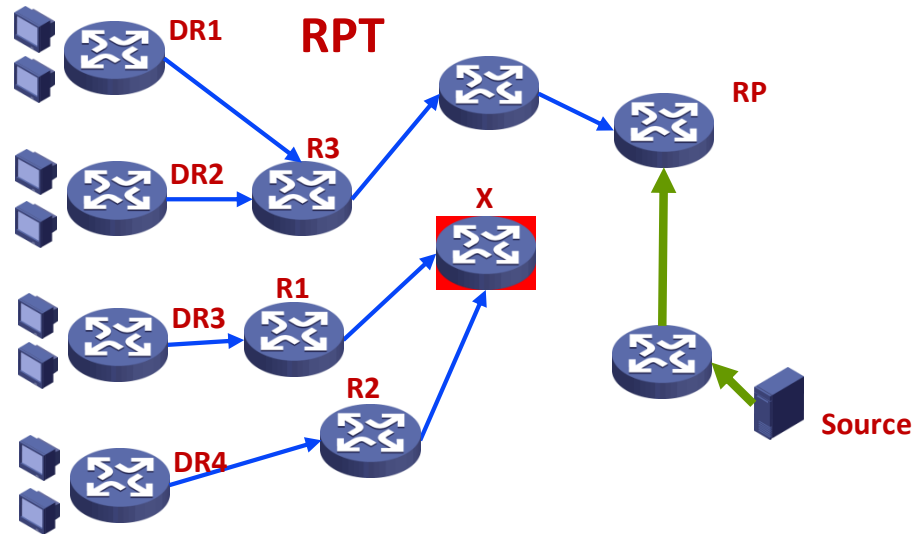
Huawei

Presenter: Zhe Chen/Huawei

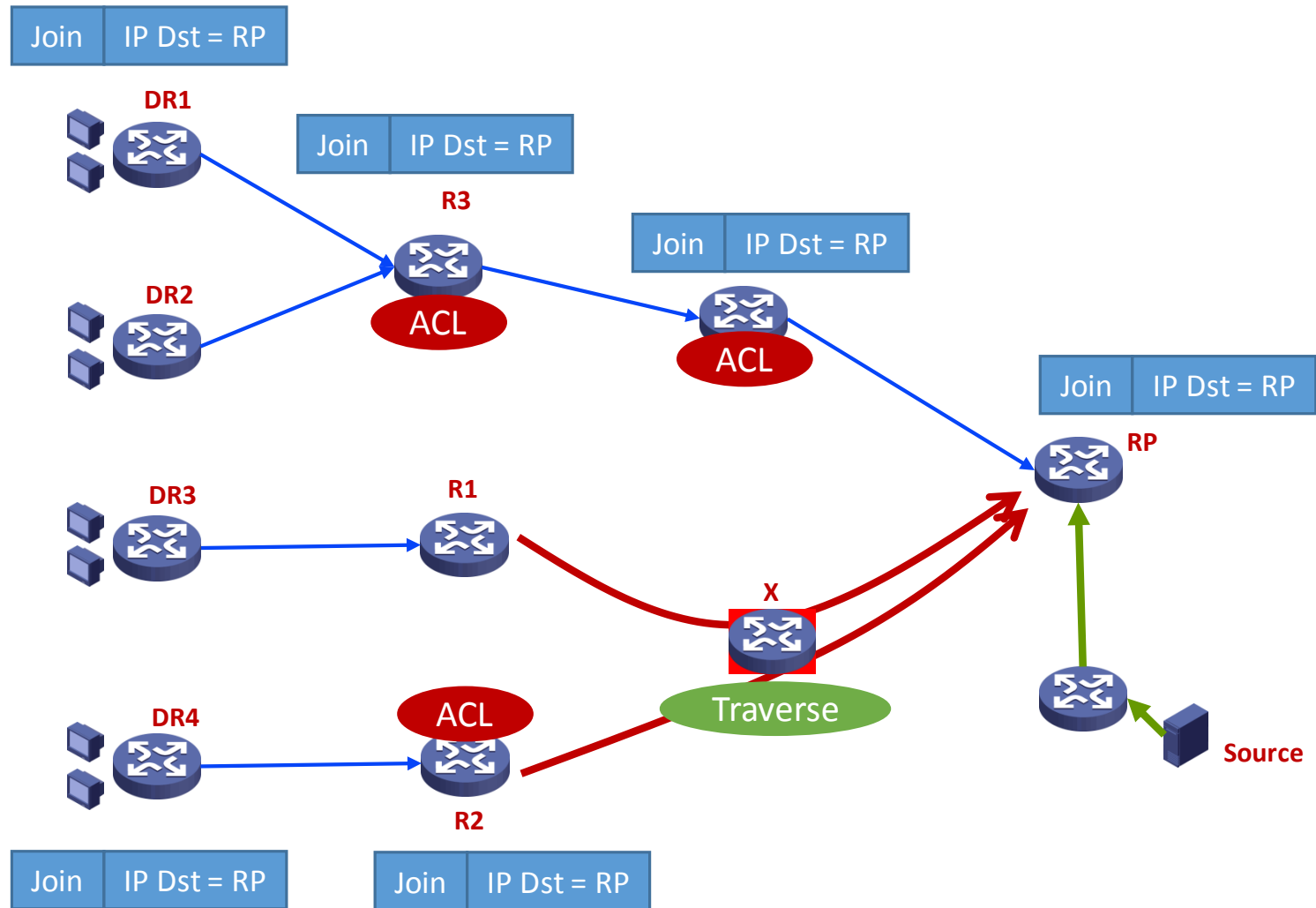
2018.3

Problem Description

- As defined in RFC 7761, join/prune messages are multicast packets, whose destination address is ALL-PIM-ROUTERS. The TTL of the packets should be set to 1.
- A PIM router would compare Unicast Upstream Neighbor Address carried in the message with the address of itself, the message will be processed only if the two addresses are the same.
- As long as one router in the path from a joining router to the target RP/Source does not support PIM, the join message will be discarded.



Solution Overview



Details

- Neighbor relationship between PIM routers will no longer be maintained.
- Join/Prune messages will no longer be multicast with TTL 1 to the 'ALL-PIM-ROUTERS' group, they will be unicast as below:
- 1) If an RPT is being joined/pruned, the destination address of the join/prune message should be the RP address, the source address of the join/prune message should be the address of the joining/pruning router.
- 2) If an SPT is being joined/pruned, the destination address of the join/prune message should be the multicast source address, the source address of the join/prune message should be the address of the joining/pruning router, and there is no Joined/Pruned Source Address field in the message.

Details

- Processing Join Messages:
 - Join messages could be received by PIM routers (other than RP/Multicast Source) through ACL or similar means, they could also be received by the destination (RP/Multicast Source) of the messages. A receiver should create tunnel from itself to the sender along with new state only if it is the sender's neighbor which can be identified by TTL in IPv4 packet or Hop Limit in IPv6 packet.

Details

- Packet Formats
 - If an SPT is being joined/pruned, there will be no Joined/Pruned Source Address field in the Joined/pruned message, and the Number of Joined Sources in the message is 1.

Next Steps

- We need more reviews and comments.