Signal-less LISP Multicast

MBONED WG - Berlin IETF - July 2013

Dino Farinacci
lispers.net

Problem Statement

- Can we get a multicast overlay to connect multicast distribution trees at LISP sites?

- Can we do it with zero xTR signaling?

Solution

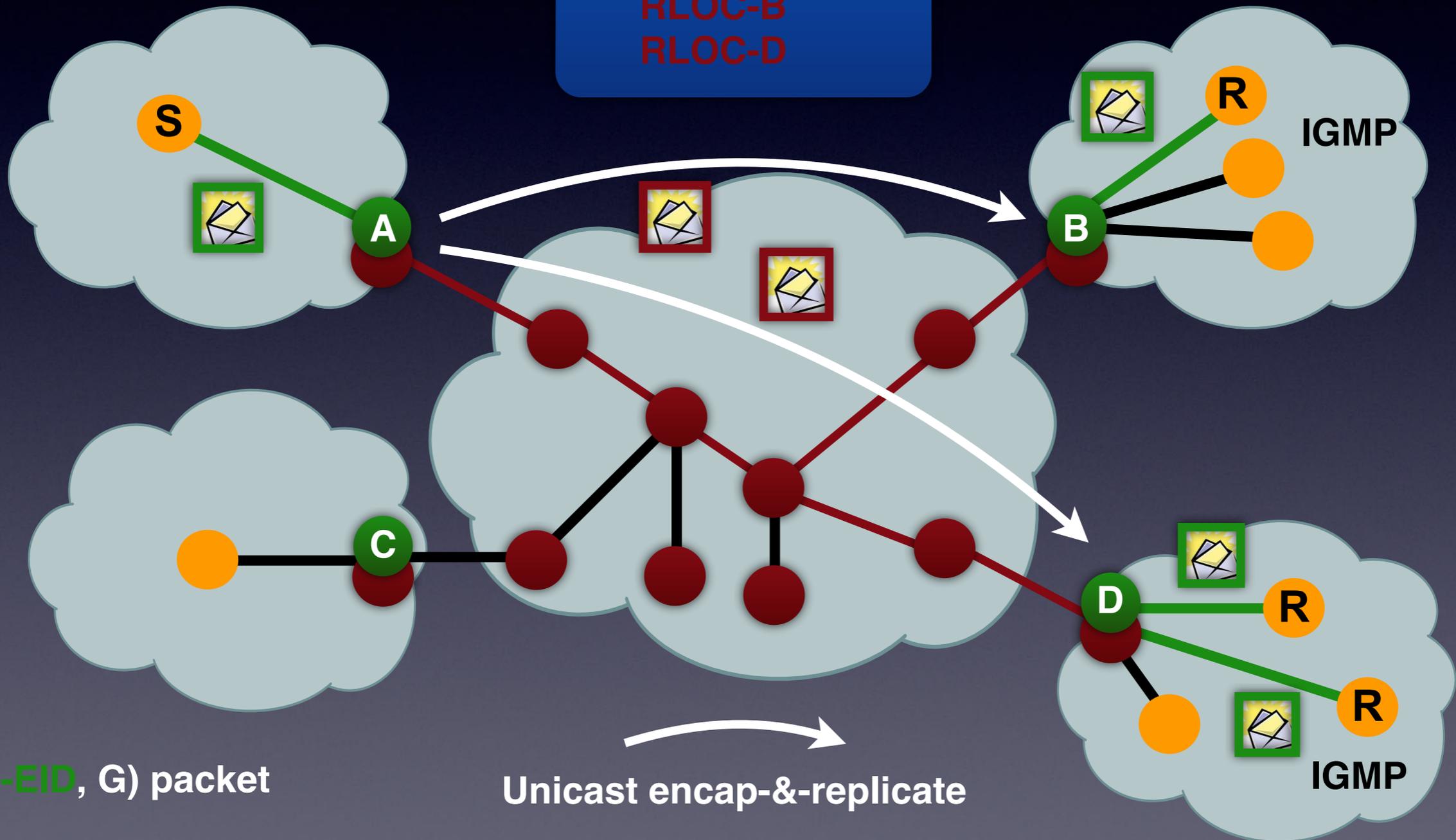Just use the Mapping Database System!
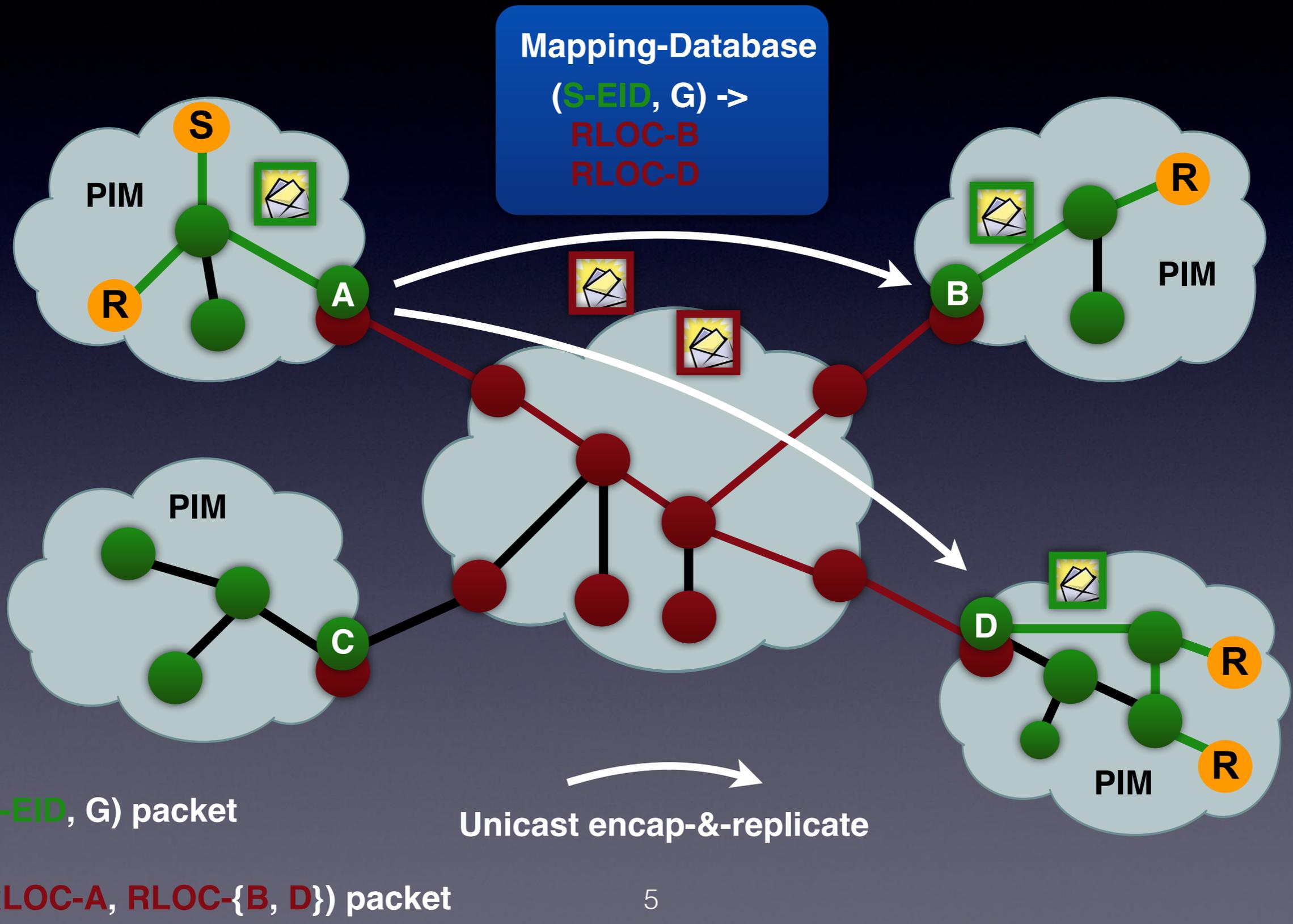
Simple Case

Mapping-Database

(S-EID, G) ->
RLOC-B
RLOC-D

S

A

B

R

IGMP

C

D

R

R

IGMP

(S-EID, G) packet

(RLOC-A, RLOC-{B, D}) packet

Unicast encap-&-replicate

4

Complex Case

Mapping-Database
(S-EID, G) ->
RLOC-B
RLOC-D

PIM

S

R

A

B

PIM

R

PIM

C

D

R

R

PIM

(S-EID, G) packet

Unicast encap-&-replicate

(RLOC-A, RLOC-{B, D}) packet

5

Open Issues

- In the Complex Case - Push/Pull Conflict

  - **ITR** cannot attract packet if it doesn't join tree in source site

  - **ITR** cannot join tree because it doesn't know what (S-EID, G) state was joined in receiver sites

  - When source directly connected - we are okay

  - Otherwise, source site must run PIM-ASM and **ITR** needs to be PIM-RP

Open Issues

- Can this scale?

  - **ETRs** register with *merge-semantics - *will the replication list in the Mapping Database get too large?

  - Too much head-end replication?

- Mapping Database can hold DG state to reduce size of replication list in both the Mapping Database and in the **ITR**

Questions?