

LISP L2/L3 EID Mobility Using a Unified Control Plane

draft-ietf-lisp-eid-mobility-08

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Scope of the draft

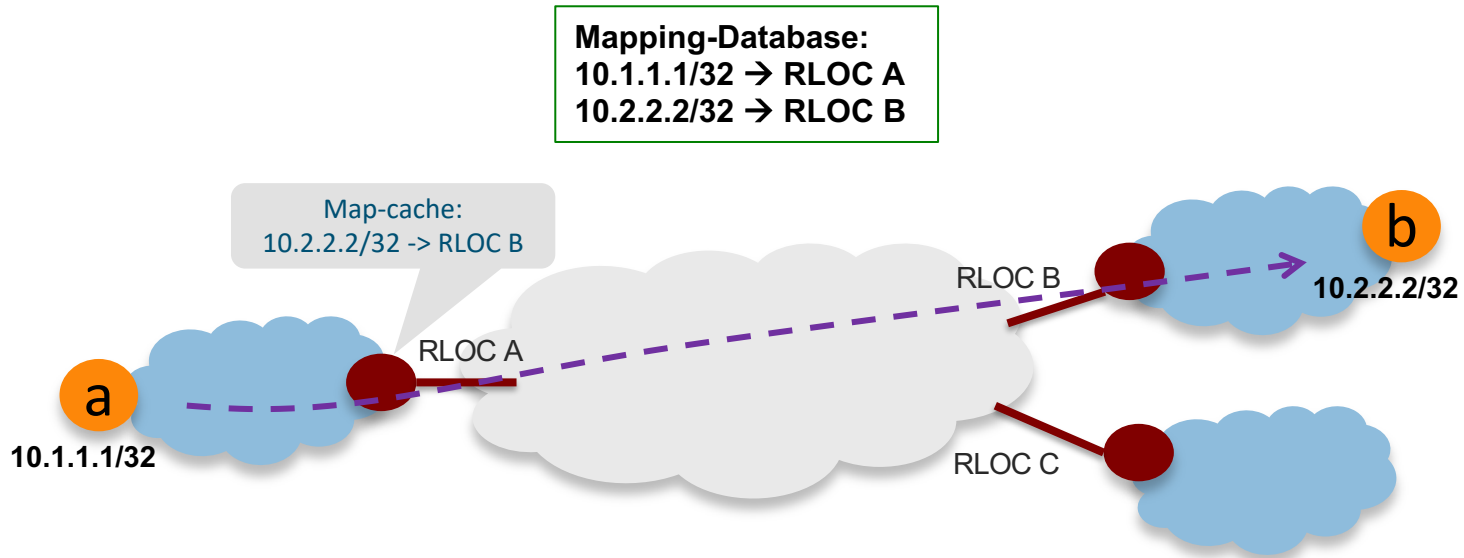
- Methods for using a common control plane to concurrently support:
 - Layer 3 overlays with eid-mobility
 - EID-prefix mobility across sites
 - Layer 2 overlays with eid-mobility
 - Unicast and multi-destination
 - Non-IP and IP intra-subnet
 - LISP assisted ARP/ND resolution

L3 overlays

- Without mobility – RFC 6830 (6830bis/6833bis)
- With Mobility
 - ETRs register prefixes for their locally attached EIDs
 - Traffic between sites follows L3 rules defined in RFC 6830 (destination Lookups, L3 forwarding and TTL decrements)
 - When an EID changes location, we can use two approaches to trigger a refresh of stale map-caches:
 - Data-driven SMRs
 - Pubsub driven Map-notifies

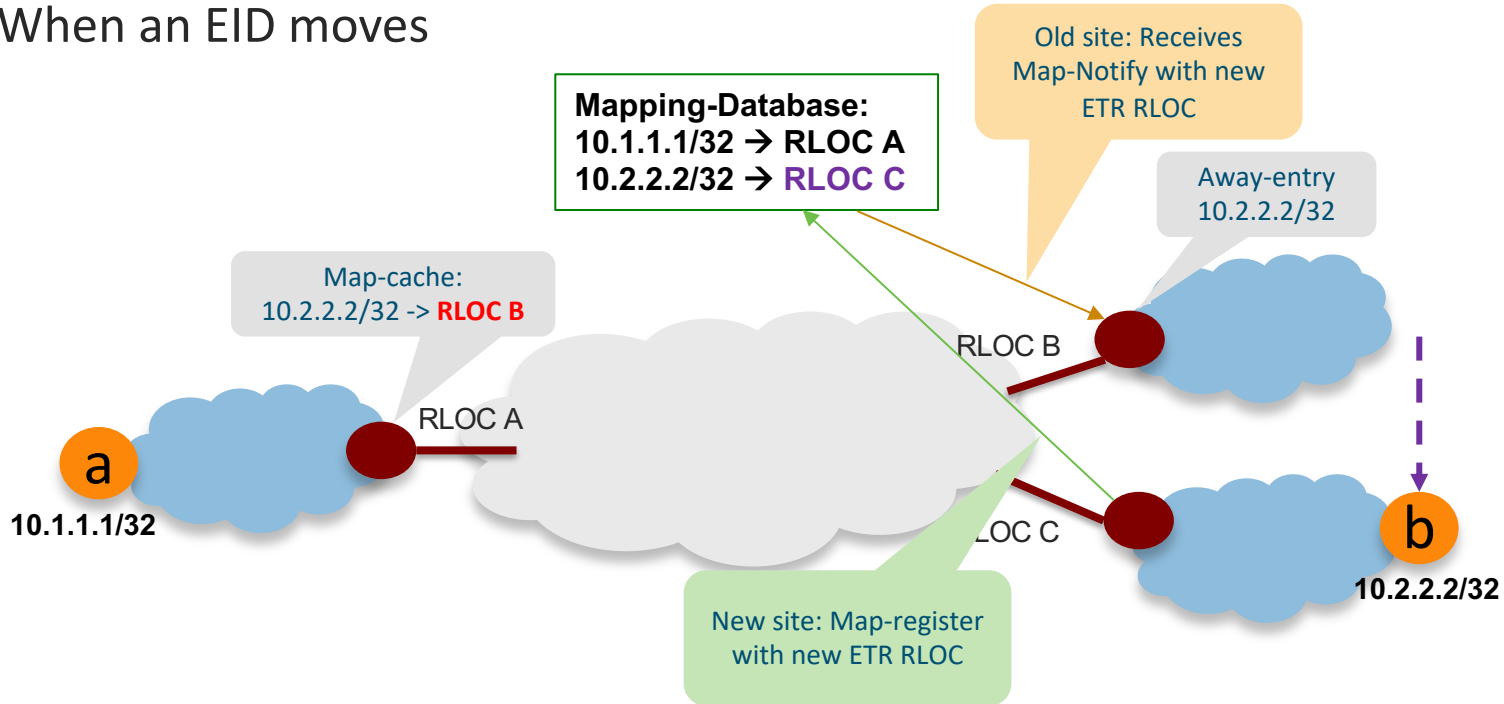
L3 overlays and mobility

- ETRs register locally connected EIDs and traffic flow as in RFC 6830



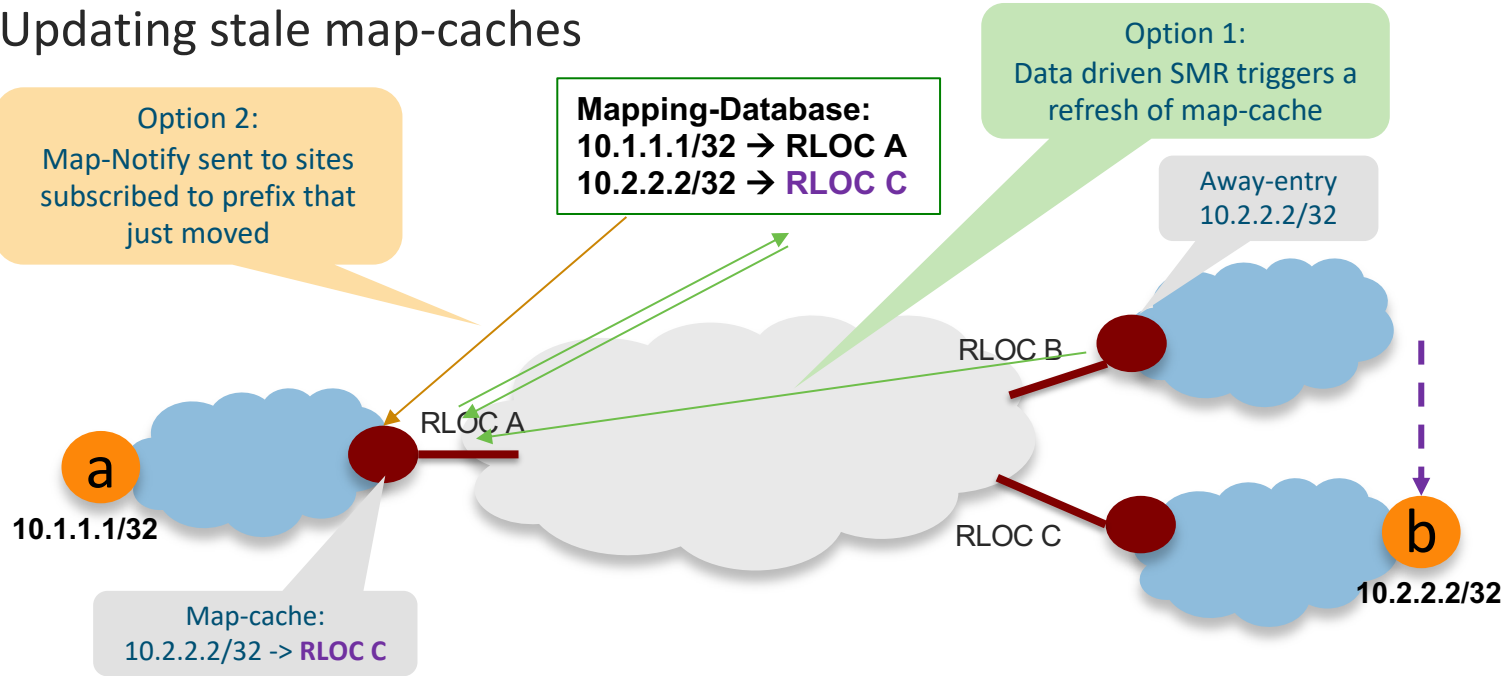
L3 overlays and mobility

- When an EID moves



L3 overlays and mobility

- Updating stale map-caches



L2 overlays

- Register MAC addresses as EIDs in the Mapping System (EID-AFI 6)
- L2 and L3 separation
 - Dedicate specific IIDs for L2 and L3 purposes
 - IID-scope MAC to RLOC mappings (map-caches and database mappings)
 - Use segmentation as specified in draft-ietf-lisp-vpn
- Definition of methods for
 - Unicast traffic handling (non-IP and intra-subnet traffic)
 - BUM traffic handling
 - LISP assisted ARP/ND support
 - Mobility support

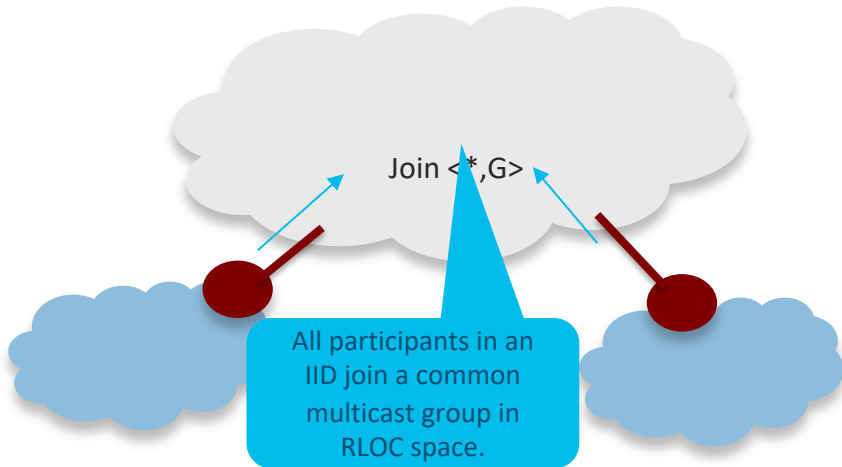
L2 overlays and mobility

- Unicast mobility, similar procedures as in L3 case but within the IID scope of the L2 overlay
- Update of stale map-caches after a move:
 - Data-driven SMRs (using the away table)
 - Pubsub driven Map-Notify
- TTL handling in data-plane: TTL header of inner packet must remain unmodified

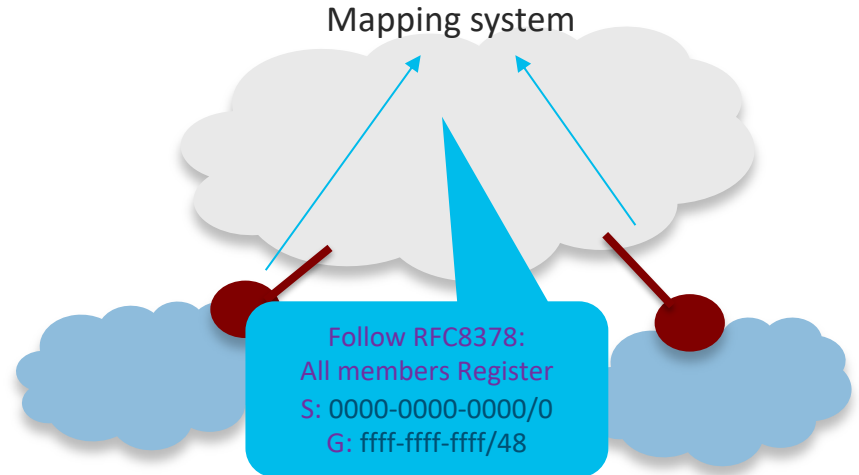
L2 overlays

- Support to broadcast and multicast traffic
- All participants in a L2 overlay (L2 IID) join a common group

When multicast underlay is supported



When multicast underlay is not available

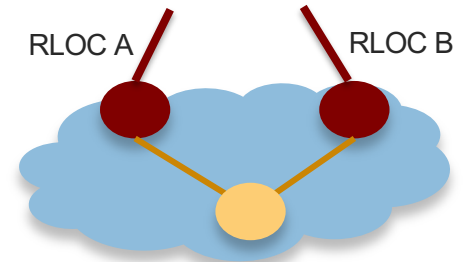


L2 xTR resiliency

(Work in progress)

- An ES-id identifies Multihomed L2 segments.
- All xTRs part of a multihoming group register the ES-id with the MS using:
 - set merge-request bit (to consolidate RLOC list of members)
 - set want-map-notify bit set (so that all xTRs are notified of the list of members)
- When needed
 - Designated Forwarder selected by the MS out of the consolidated RLOC list
 - Split Horizon: Based on Map-Notifies all xTRs maintain list of RLOCs of members of ES-id

Mapping-Database



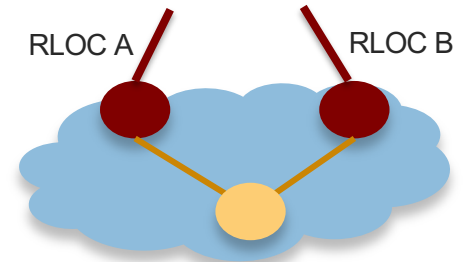
L2 xTR resiliency

(Work in progress)

- Aliasing
 - EID are registered with ES-id
 - Use pubsub procedures (subscription to ES-id) so that members of the group are notified about new EIDs detected in segment
 - xTRs can then add these EIDs to their local database and send Map-Register

- Note: Should we use site-ID for this instead of a new ES-id tag?

Mapping-Database



Comments, Questions