

LISP L2/L3 EID Mobility Using a Unified Control Plane

draft-ietf-lisp-eid-mobility-13

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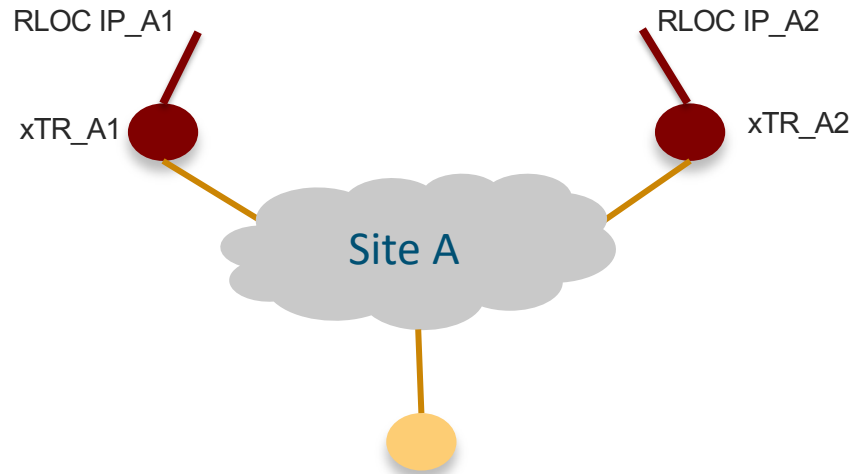
IETF 118
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Scope of the document

- 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
 - **Multihoming support (new in version 13)**

L2 Multihoming Support

- Providing L2 multihoming requires additional mechanisms on top of the ones specified in [RFC9300] and [RFC9301]



Site-ID as identifier of multihomed sites

- After discussion in mailing list we settle with site-ID as identifier

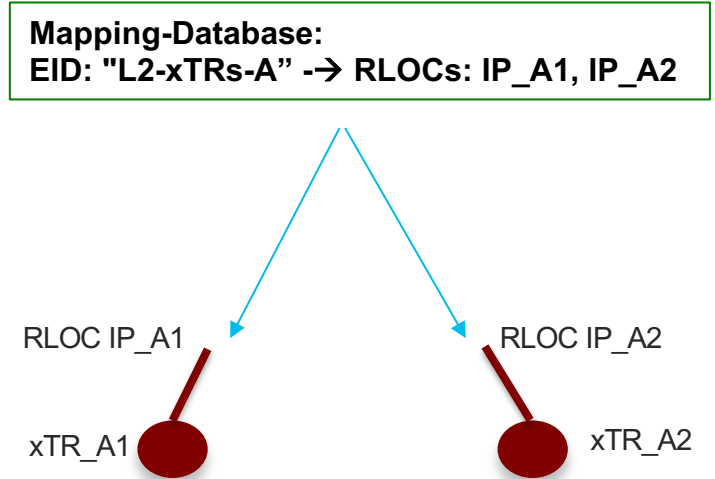
The site-ID, as defined in [RFC9301], is used as the identifier that enables logical grouping of multiple xTRs that provide multihomed access to a L2 domain.

- Site-ID must be used in all registrations from multihomed sites

All EID-to-RLOC mappings from ETRs in a L2 multihomed site MUST be registered with the site-ID, by setting bit I in the Map-Register message.

Peer xTR discovery

- xTRs multihoming access to a L2 site need to discover each other
 - Broadcast forwarder selection, split horizon filtering
- xTRs register a special EID for this purpose
 - Use Predefined DN: “**L2-xTRs-<site-ID>**”
 - Use reserved IID for this registration
 - MUST set merge-request bit (a bit)
 - MUST set want-map-notify bit (M bit)
- Mapping System
 - Stores EID registration with merged RLOC set
 - Sends Map-Notify with updated list to all xTRs



Designated Forwarder Selection

- Designated Forwarder responsible to send broadcast traffic to and from remote sites.
- We use the M-priority in the RLOC records to establish a priority of xTRs.
- DF is the one with best M-priority amongst all active RLOCs
- RLOC address in ascending order is the tie-breaker with equal M-priority values

Mapping-Database

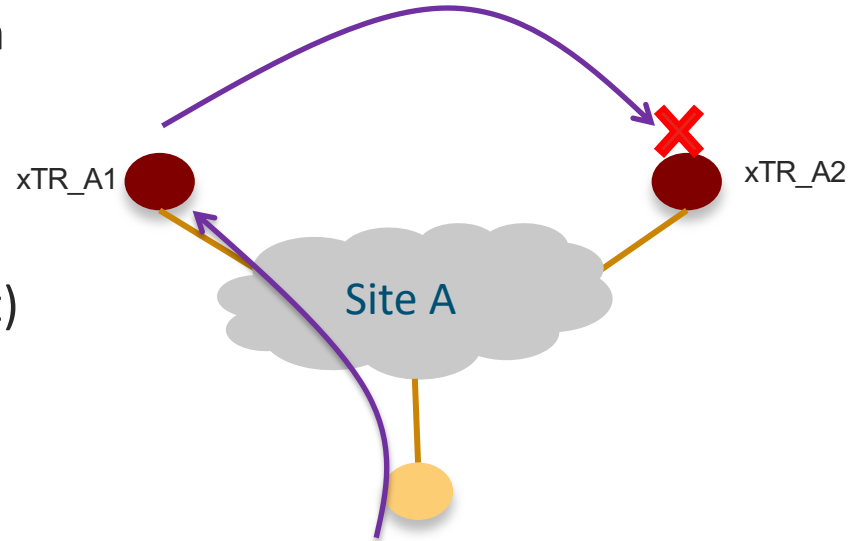
EID: "L2-xTRs-A" → RLOCs: IP_A1
IP_A2

M-prio 1
M-prio 2



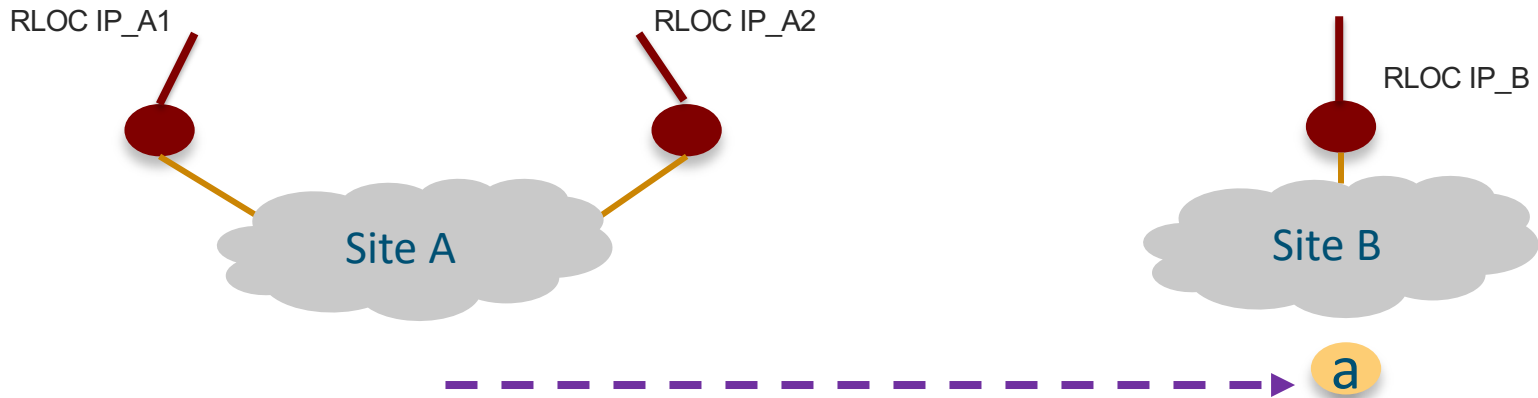
Split Horizon

- All xTRs in multihomed L2 site MUST implement proper *split horizon* mechanisms to avoid duplication of broadcast traffic and protect against loops.
- Use the list of RLOCs collected through site-ID registration to build filters
- Recommended: only DF to join the L2 replication list (as defined in section 5.2.5 in the draft)



L2 multihoming and mobility

- The Mapping System distinguishes between mobility events and multihomed registrations based on site-ID in the registration
 - Same site-ID (and merge-request bit set), merge with existing
 - Different site-ID, replace locator-set
- xTRs use RLOC list learned in site-ID registration to identify roamed away events



Comments, Questions?

- Just uploaded the last version -13 for review by WG.
- Specification in production for some years.