

End Host Mobility Use Cases for LISP

draft-hertoghs-lisp-mobility-use-cases

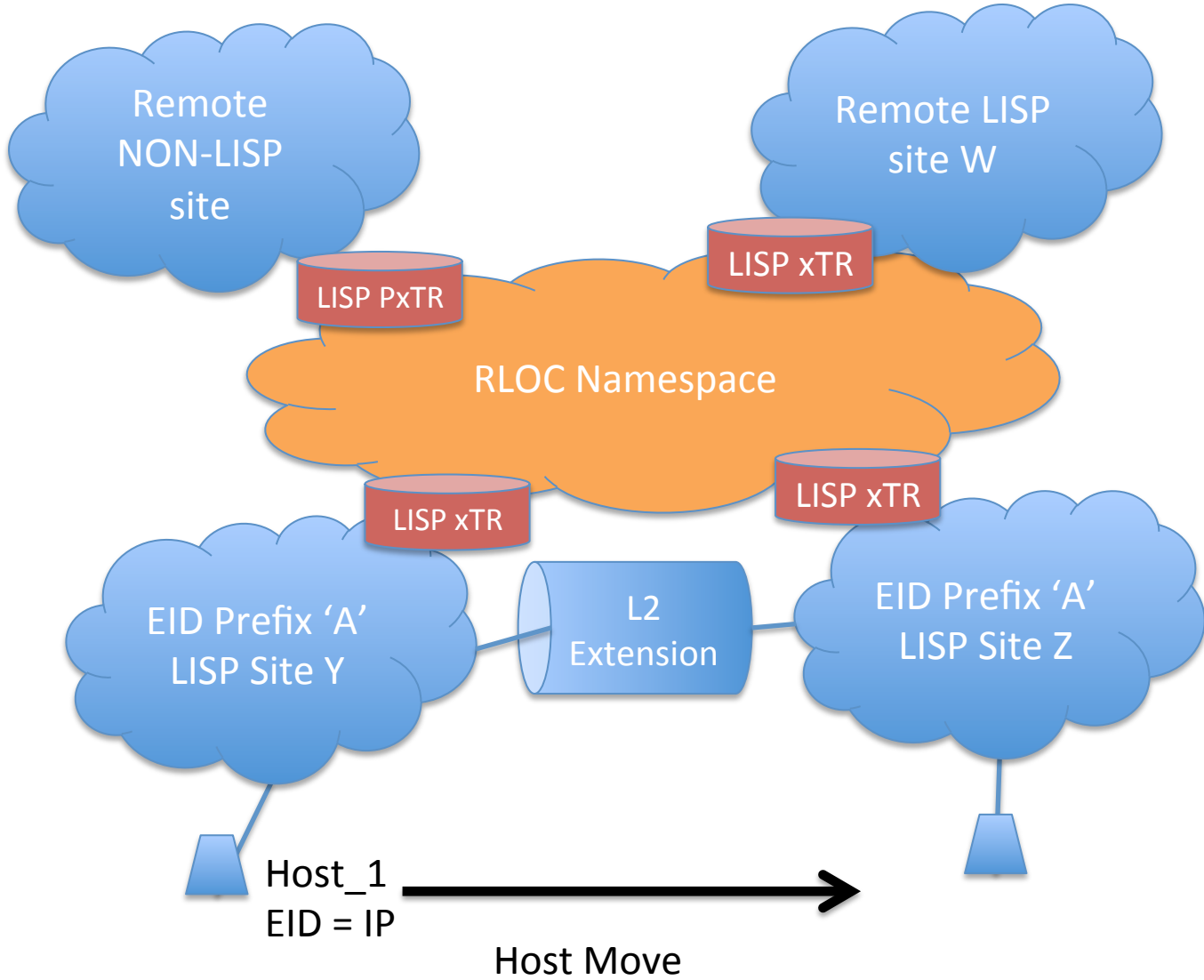
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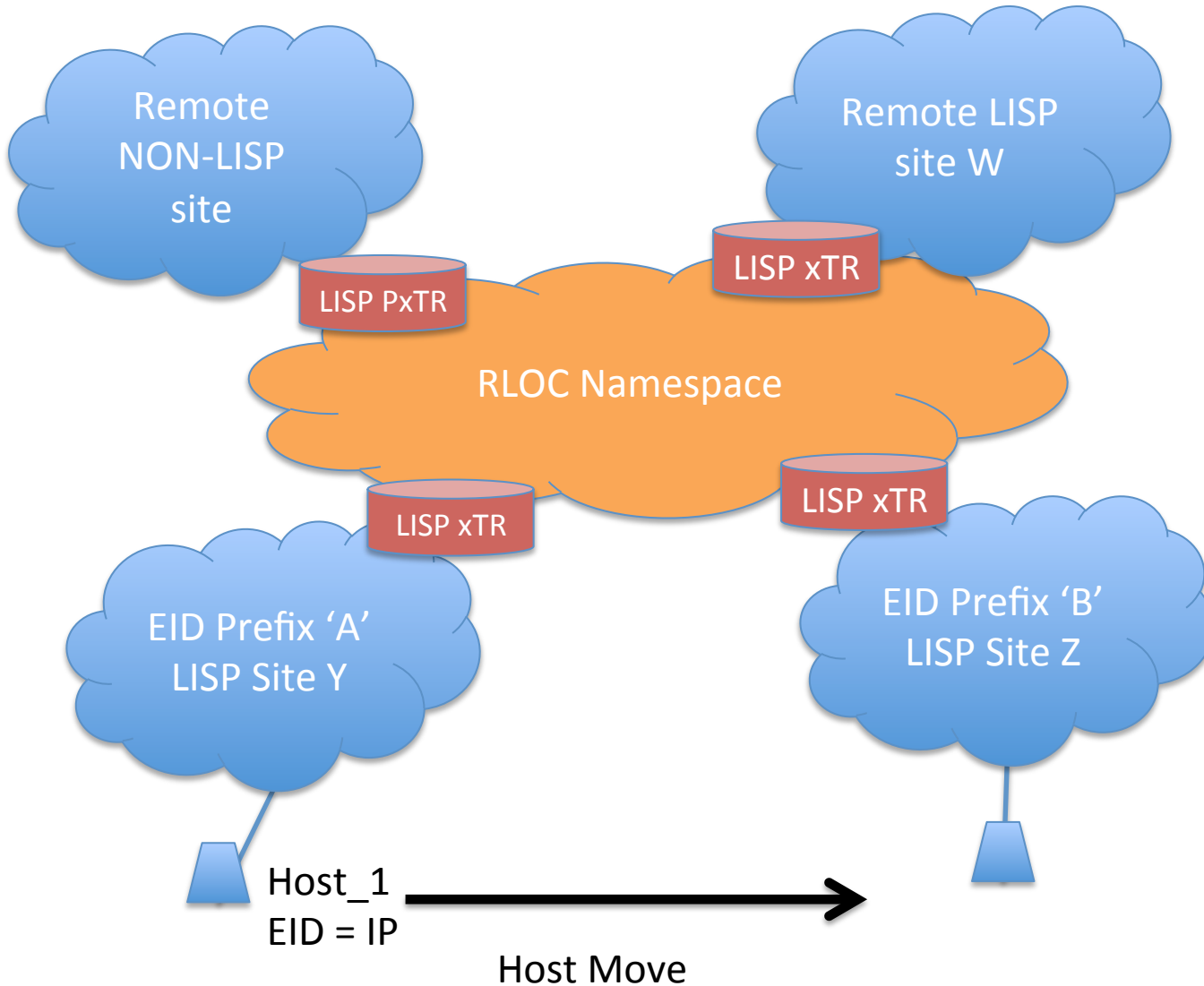
Overview

- **Use Case Draft for LISP for network-assisted host mobility**
- **7 Use Cases**
 1. **Mobility when subnet is L2 extended (non-LISP technology) across LISP sites (EID = IPv4/6 address)**
 2. **IP Mobility across subnets/LISP sites (EID = IPv4/6 address)**
 3. **Layer 2 Mobility/Extension using LISP (EID = MAC-Address)**
 4. **A Combination of 1 and 3 : (EID = IPv4/6 address for inter-subnet, EID = MAC for intra-subnet)**
 5. **Unified L2/L3 LISP: Use EID = IPv4/6 for all IP Mobility (intra and intersubnet), Use EID = MAC-Address for all non-IP traffic**
 6. **Multi-hop variant of 1 : Mobility detection and LISP signalling are one or more L3 hops apart**
 7. **Multi-hop variant of 2 : Mobility detection and LISP signalling are one or more L3 hops away**

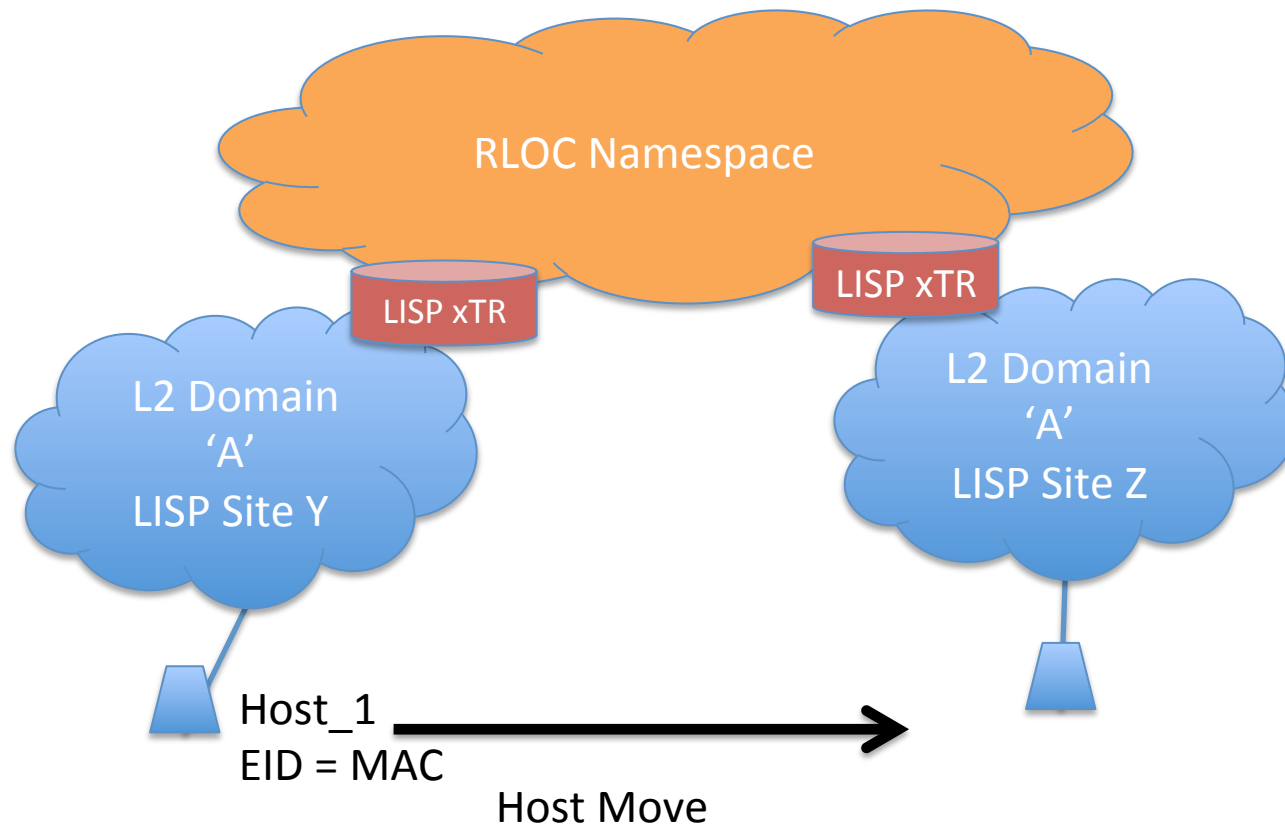
1. LISP IP Mobility Extended Subnets



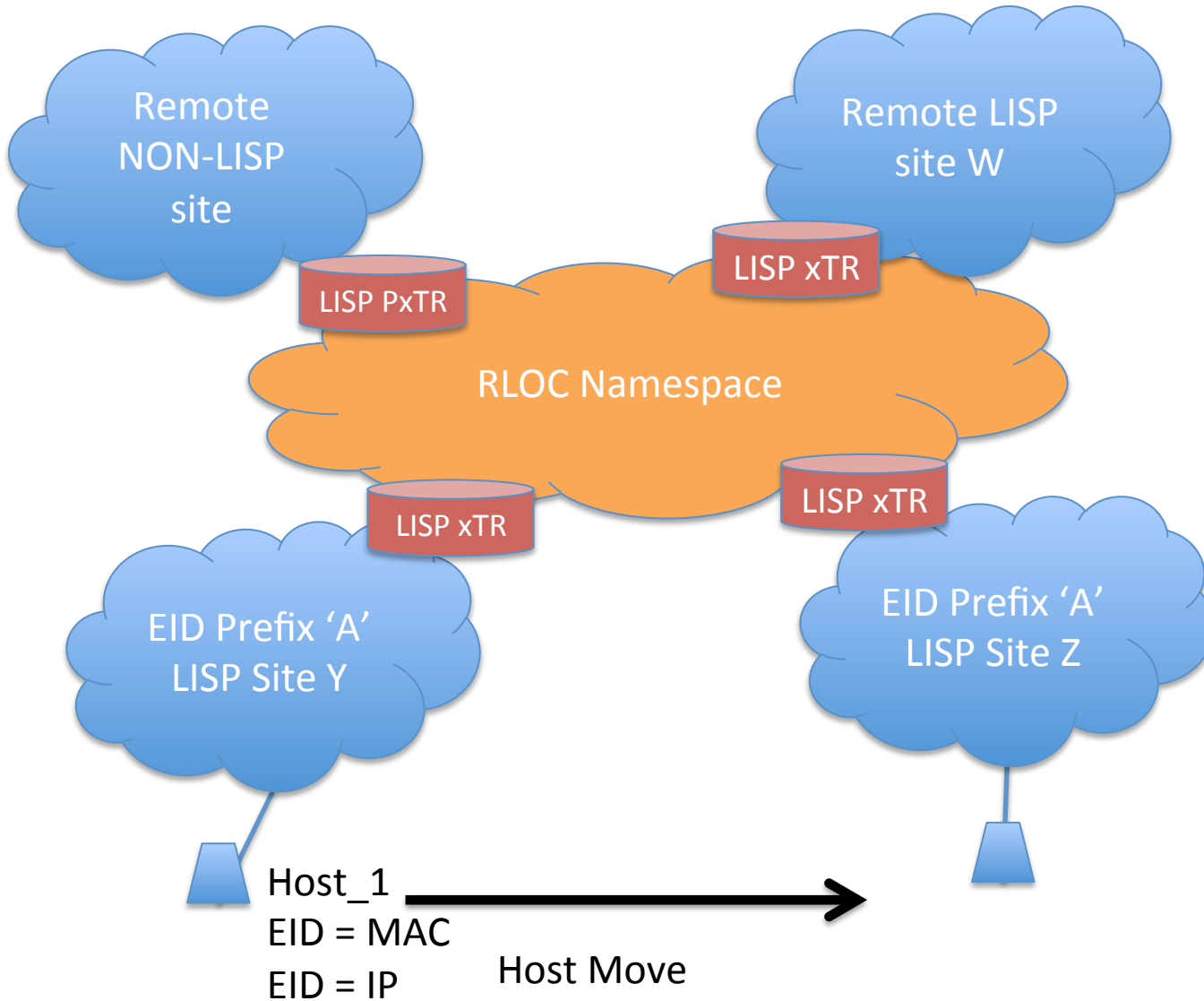
2. LISP IP Mobility Across Subnets



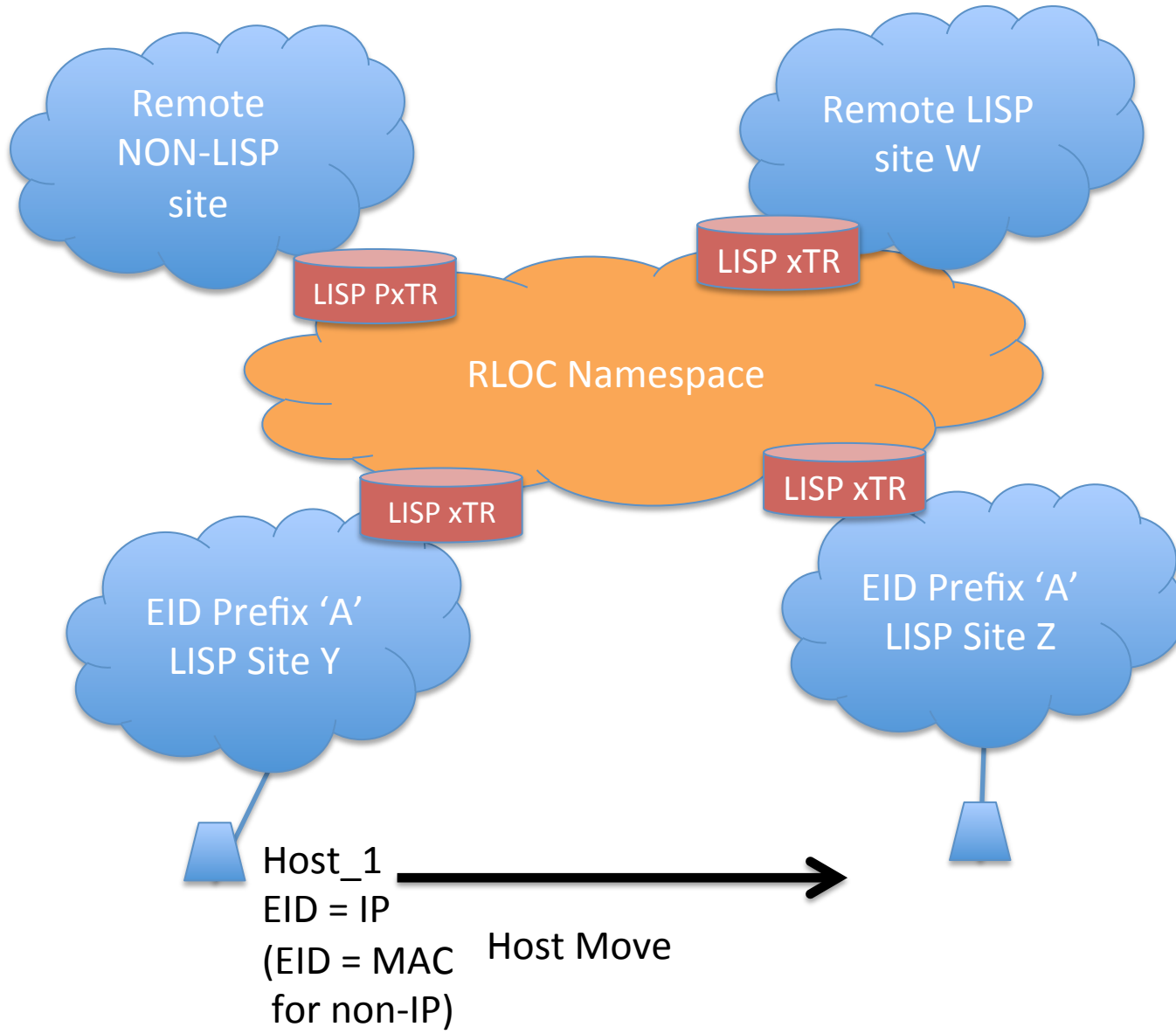
3. LISP MAC-Layer Mobility (LISP as Layer 2 extension)



4. LISP Combined L2/L3 Mobility



5. LISP Unified L2/L3 Mobility



Unified L2/L3 LISP xTR

- First hop device is a LISP xTR, and the default gateway for all traffic
 - Default Gateway identity (MAC/IP address) is the same per subnet independent of location
- Offers simultaneous support for IP and non-IP traffic, independent of subnets and location.
 - IP and MAC EID's are registered to support IP.
 - MAC EIDs are registered to support non-IP (when needed)
 - Forwarding of all IP traffic involves an IP lookup (intra- and inter-subnet/LISP IID traffic), forwarding on non-IP involves a MAC lookup.
 - Registering both IP and MAC addresses for IP aids ARP/IPv6 ND handling as well as rewrites to allow transparency for intrasubnet IP forwarding from a host perspective.
- Why?
 - Optimal forwarding for IP traffic, no traffic tromboning independent of End-station location, or intra- versus inter subnet/LISP IID.
 - Single lookup for IP traffic independent of destination
 - No need for network wide broadcast domains to achieve Mobility intra-subnet

Multihop Mobility

- Decoupling of Host-Detection and LISP Signaling
- Can cater for extended subnet and across subnet use cases (1 and 2)

Request to WG

- Consider this draft as a Use Case for LISP
- Consider this draft as input for potential future development of the LISP protocol
- Request comments and eventually move to WG Draft