

# LISP Virtual Private Networks

draft-moreno-lisp-vpn-00

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# Scope of the draft

- Segmentation of the EID space
  - Instance-IDs and Extended-EIDs (XEIDs)
  - Control Plane Procedures
  - Data Plane and Forwarding Procedures
  - Address Unicast and Multicast
- Considerations on Segmentation in the RLOC space
- Methods for Cross VPN Communication (Extranet)

# Extended IID

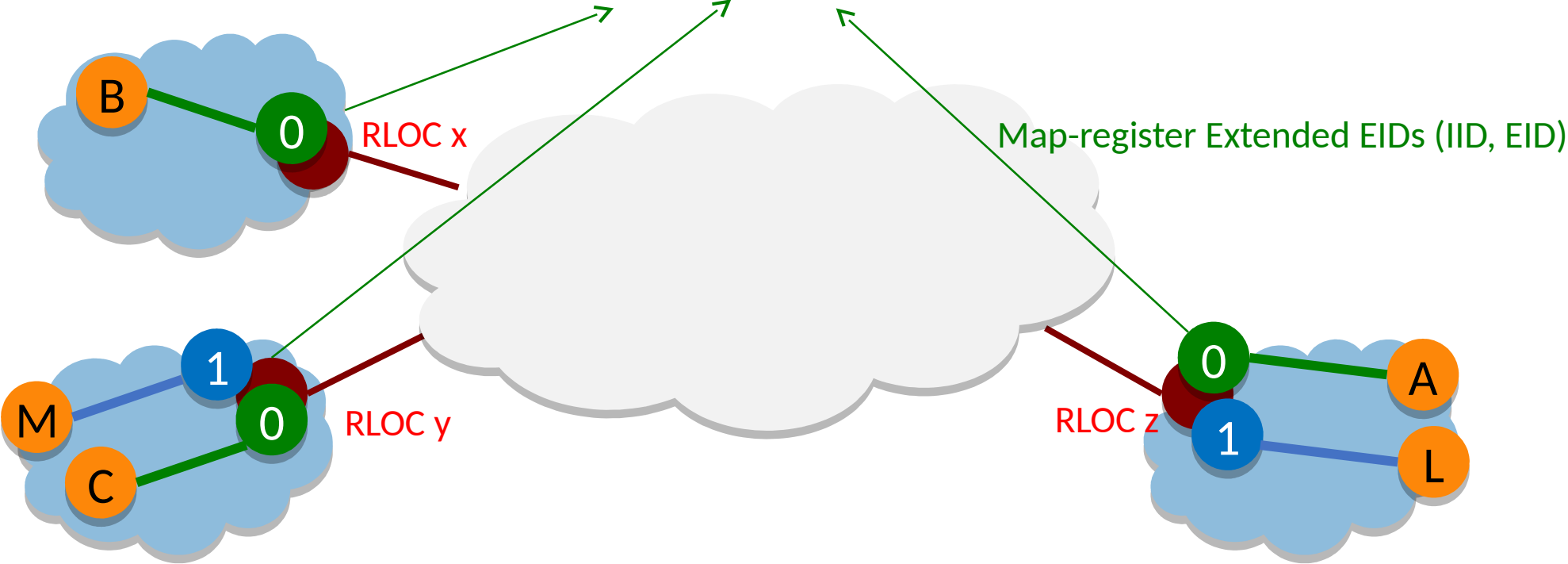
- Extended EID (XEID) defined in ietf-lisp-ddt
  - $\text{XEID} = \text{Instance-ID} + \text{EID}$
- Instance IDs encoded per ietf-lisp-lcaf type 2

# LISP VPN

ETRs register Extended EIDs

- 1 Instance-id
- A EID

Mapping-Database:		
VPN 0	0, A	≡ RLOC z
	0, B	≡ RLOC x
	0, C	≡ RLOC y
VPN 1	1, L	≡ RLOC z
	1, M	≡ RLOC y

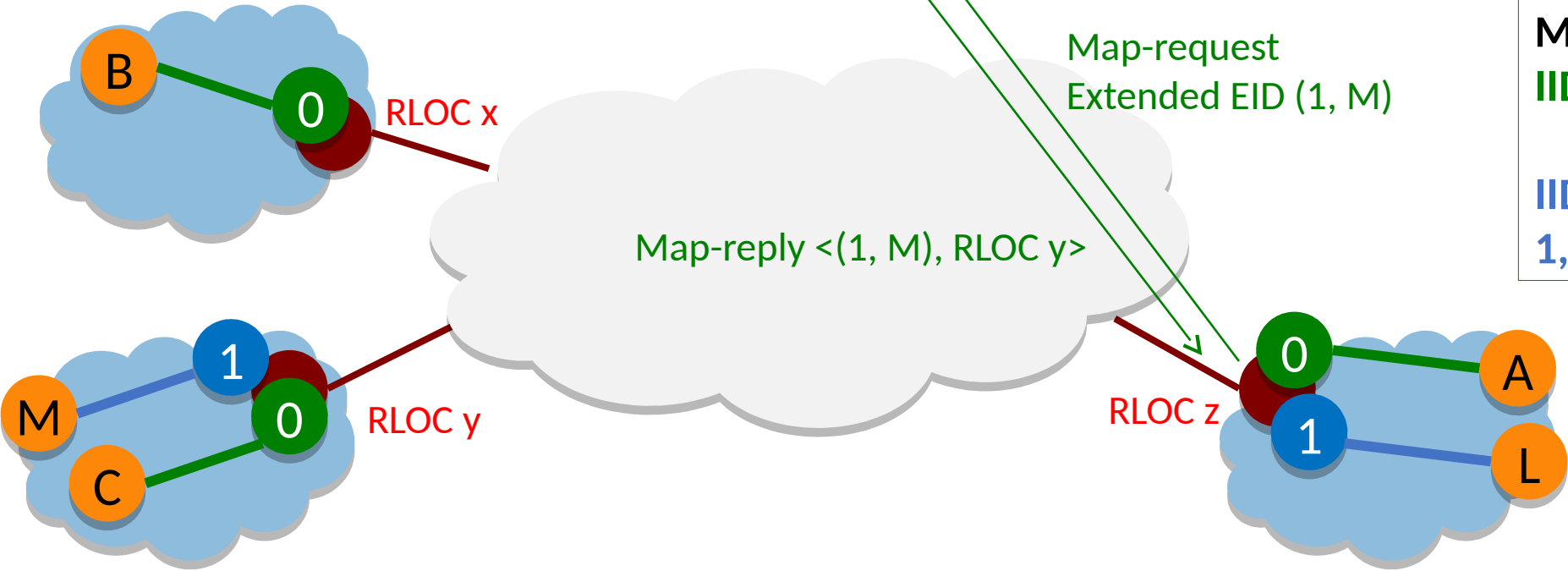


# LISP VPN

ITRs Map-request Extended EIDs

- 1 Instance-id
- A EID

Mapping-Database:		
VPN 0	0, A	≡ RLOC z
	0, B	≡ RLOC x
	0, C	≡ RLOC y
VPN 1	1, L	≡ RLOC z
	1, M	≡ RLOC y



Map Cache:	
IID 0	
IID 1	
1, M	≡ RLOC y

# LISP Cross VPN Extranet

ETRs register extranet EIDs

- 1 Instance-id
- A EID

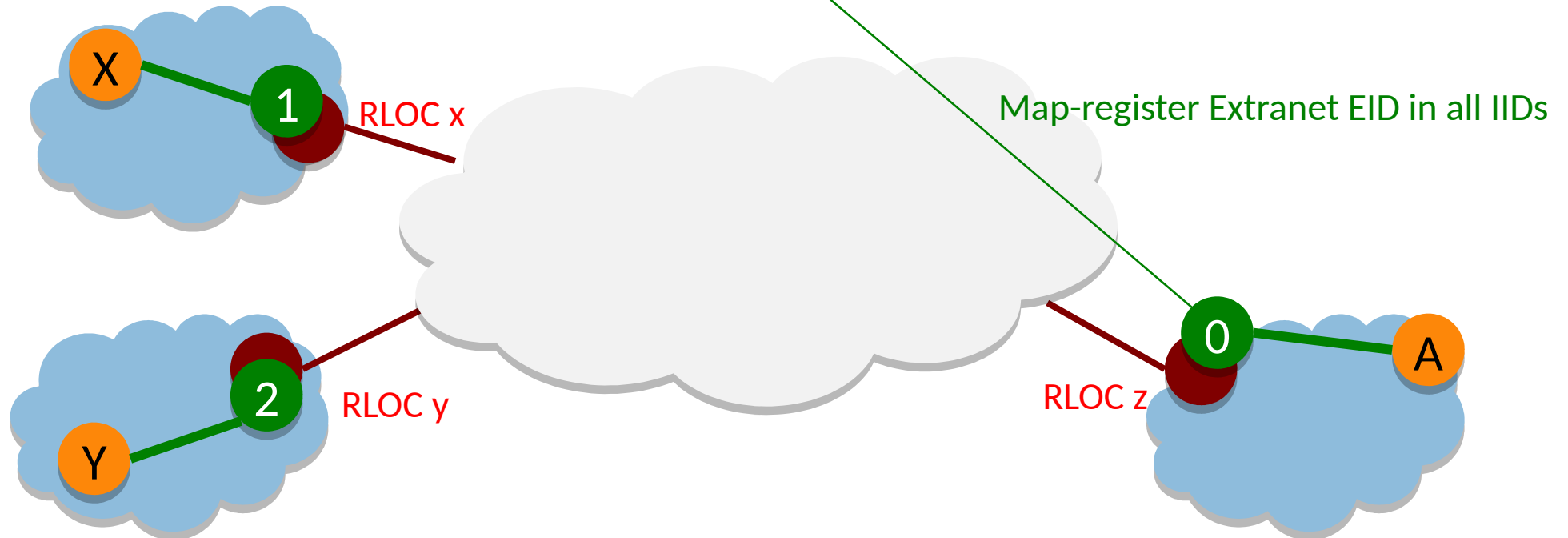
\* Home IID

## Mapping-Database:

0,A  $\equiv$  RLOC z  
1,A  $\equiv$  RLOC z(IID0\*)  
2,A  $\equiv$  RLOC z(IID0\*)

ETR configured:

- Extranet IID 0
  - List of member IIDs
- Extranet IID 222
  - List of member IIDs



# LISP Cross VPN Extranet

ITRs issue map-request for extranet EIDs

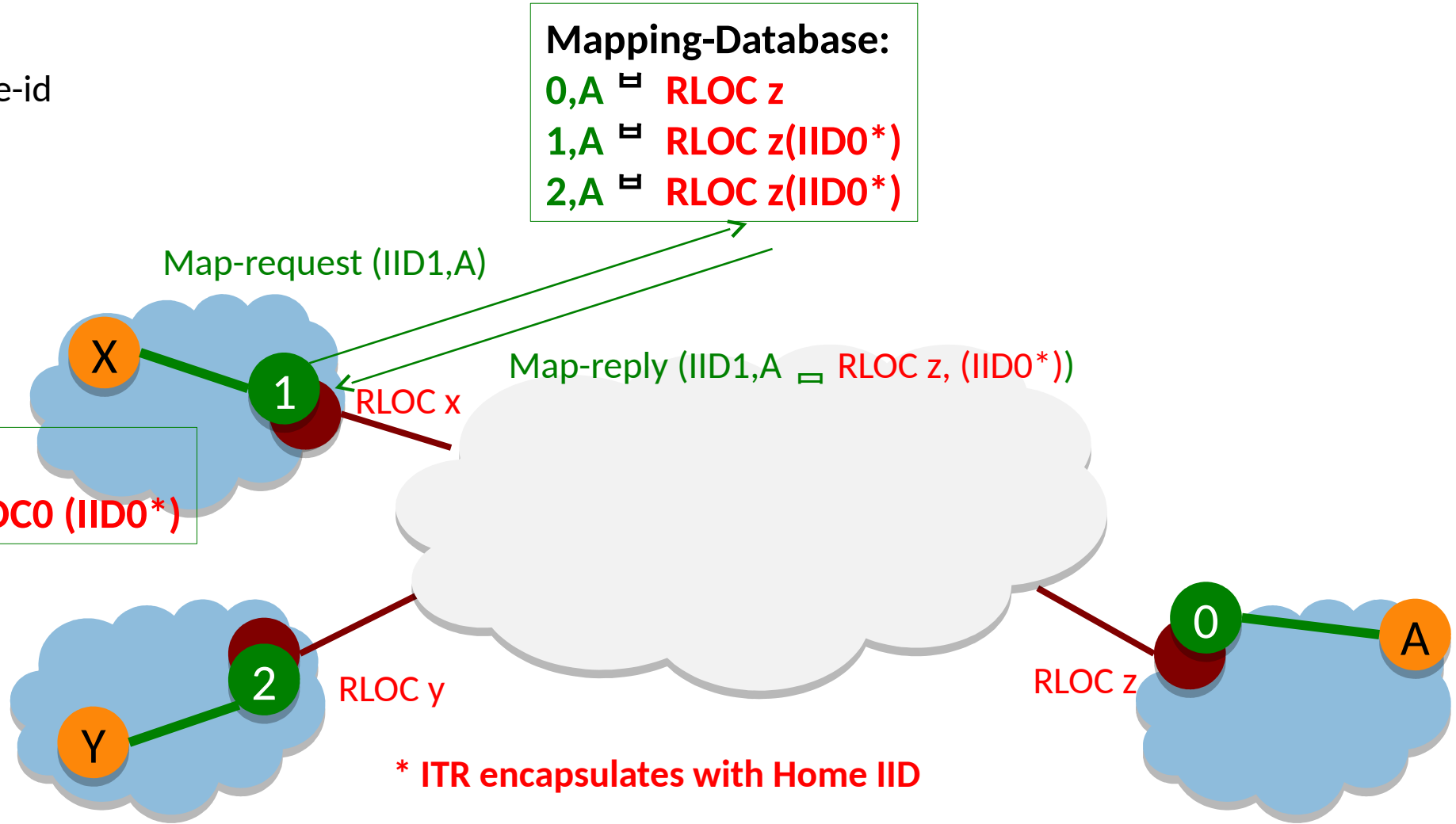
- 1 Instance-id
- A EID

**Mapping-Database:**

0,A	≡	RLOC z
1,A	≡	RLOC z(IID0*)
2,A	≡	RLOC z(IID0*)

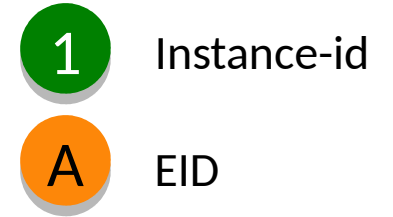
**Map-Cache:**

IID1,A	≡	RLOC0 (IID0*)
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# LISP Cross VPN Extranet

ETRs register "extranet-member" EIDs



\* Home IID

Map-register member EIDs in their IID and extranet IID

Mapping-Database:

0,A	≡	RLOCz
1,A	≡	RLOCz(IID0*)
2,A	≡	RLOCz(IID0*)
1,X	≡	RLOCx
0,X	≡	RLOCx(IID1*)

ETR configured:

- Extranet IID 0
  - List of member IIDs
- Extranet IID 222
  - List of member IIDs

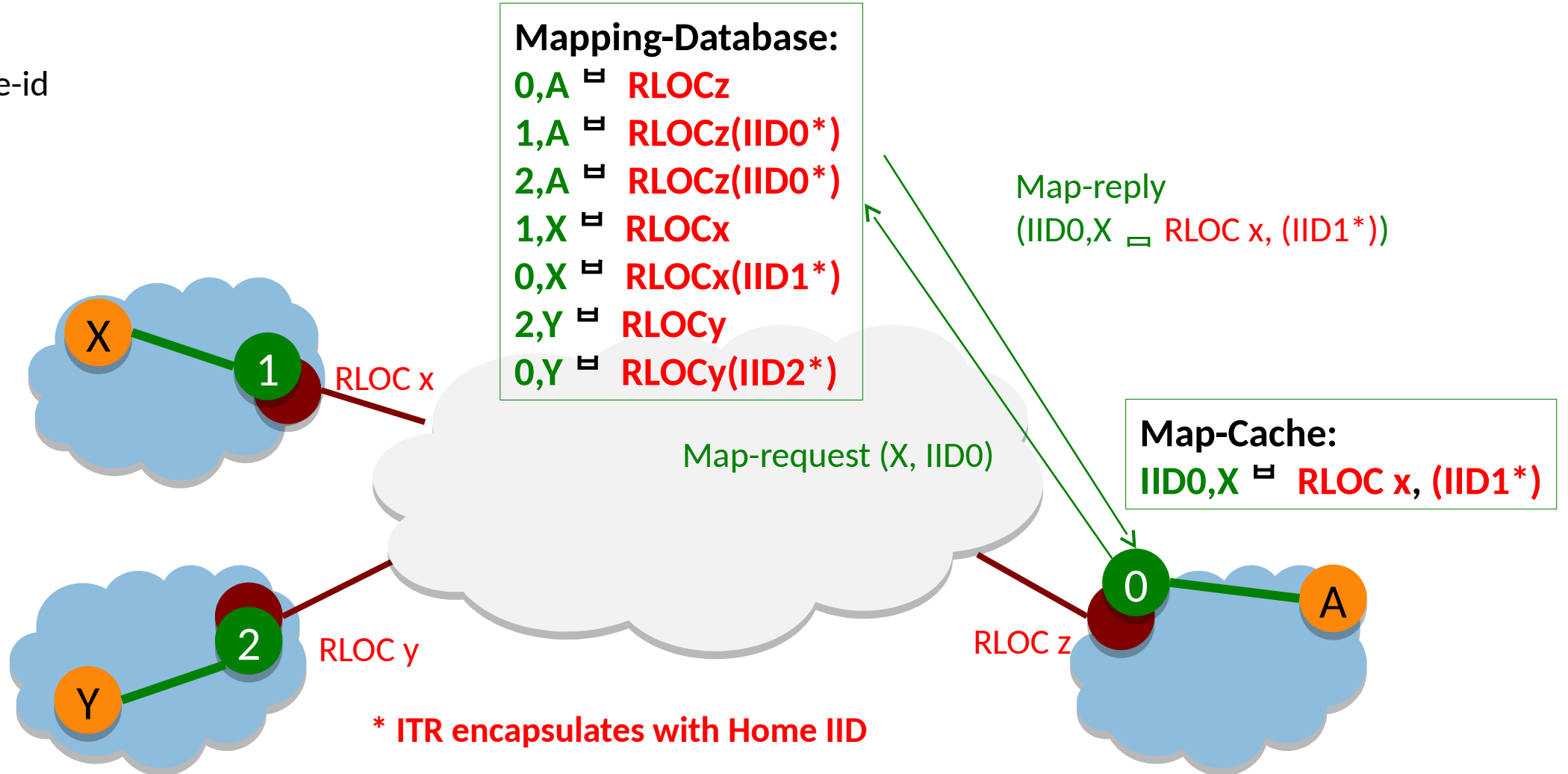




# LISP Cross VPN Extranet

ITRs issue map-request for “extranet-member” EIDs

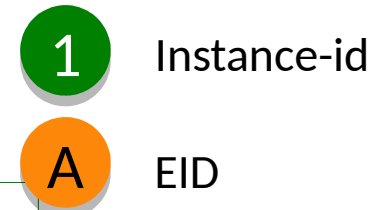
- 1** Instance-id
- A** EID



# LISP Extranet with Signal Free multicast

ETRs register "extranet-member" EIDs

\* Home IID



Map-register member EIDs in their IID and extranet IID

### Mapping-Database:

- 1,A,G ⇨ RLOCx
- 2,A,G ⇨ RLOCx
- 3,A,G ⇨ RLOCy
- 0,A,G ⇨ RLOCx(IID1), RLOCx(IID2), RLOCy(IID3)

ETR configured:

- Extranet IID 0
  - List of member IIDs (1, 2, 3)
- Extranet IID 222
  - List of member IIDs



# Next steps

- The authors would like to propose adoption of this document by the LISP WG