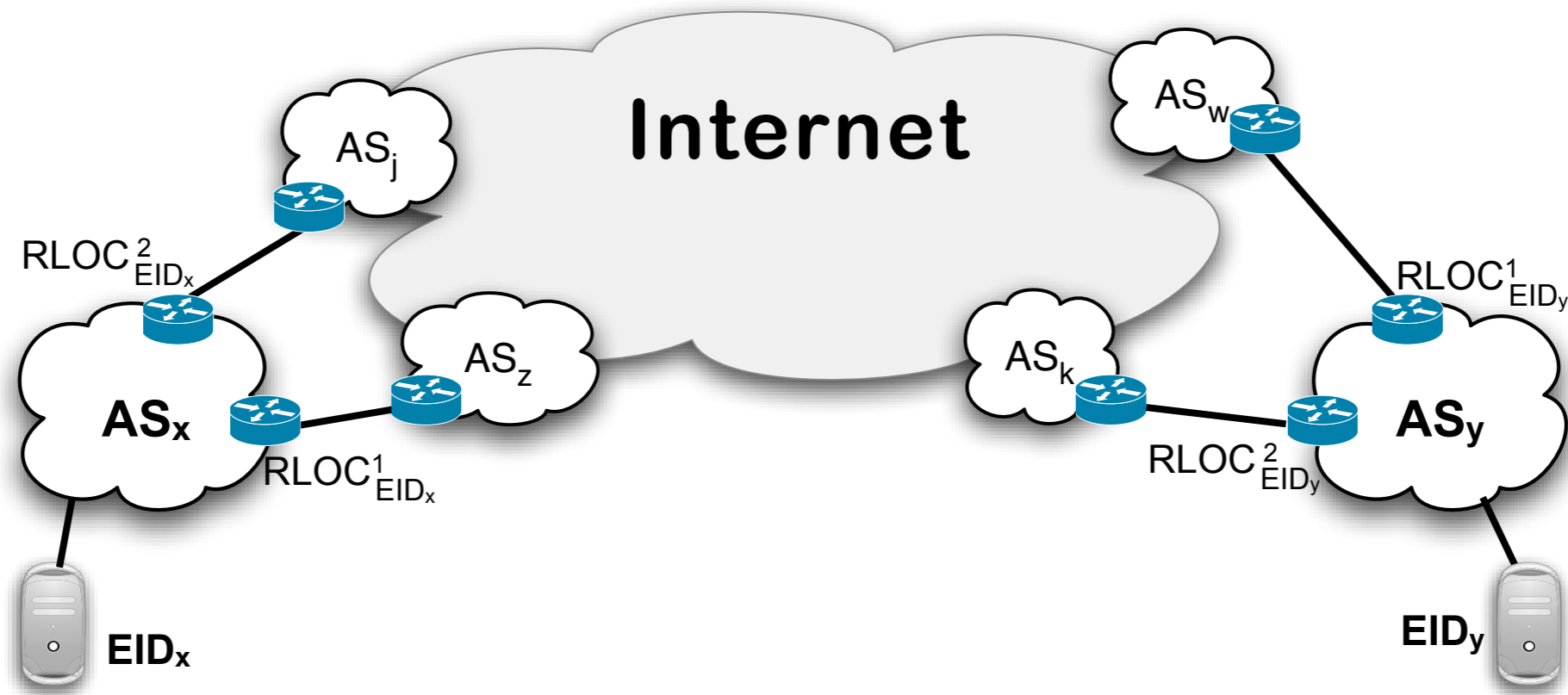


LISP Mapping Versioning

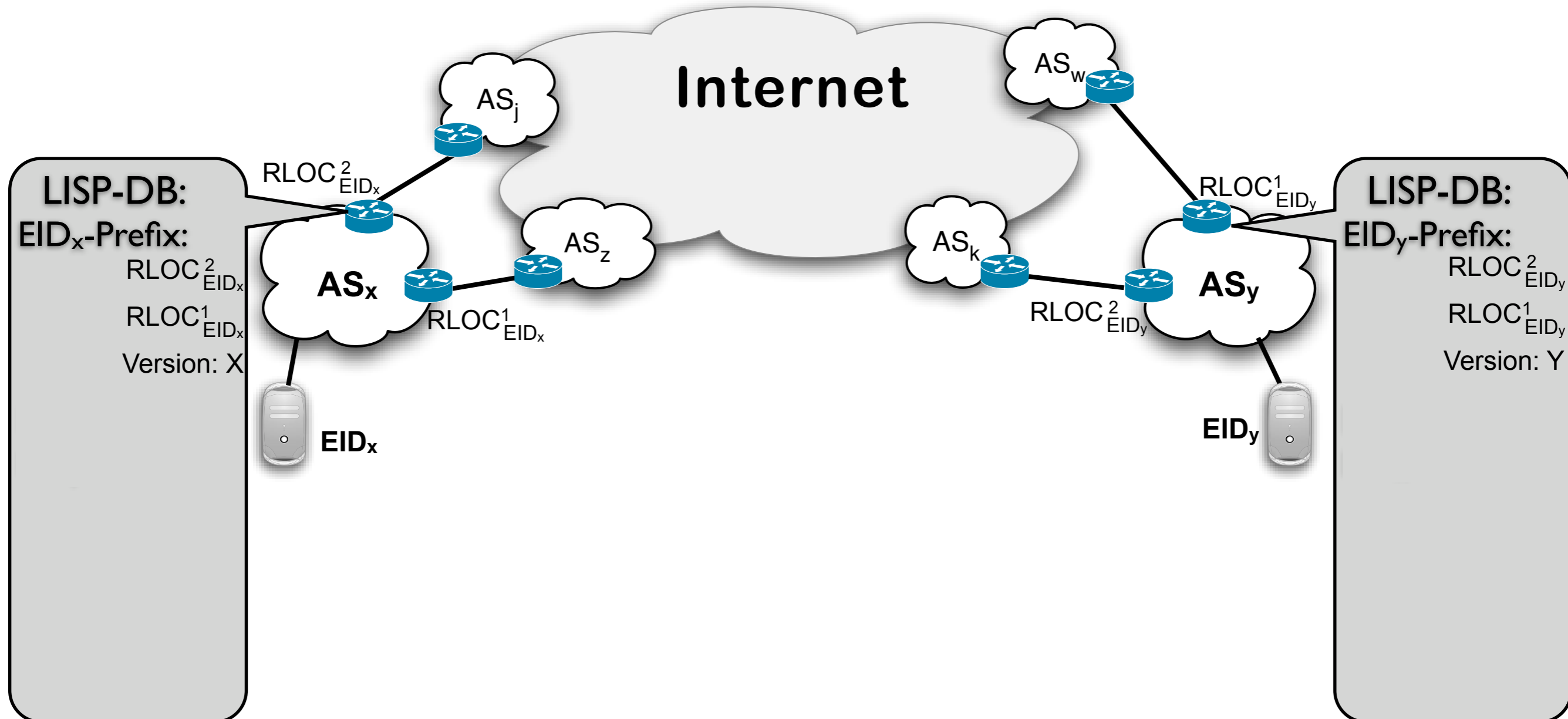
draft-iannone-lisp-mapping-versioning-00.txt

Luigi Iannone
Damien Saucez
Olivier Bonaventure

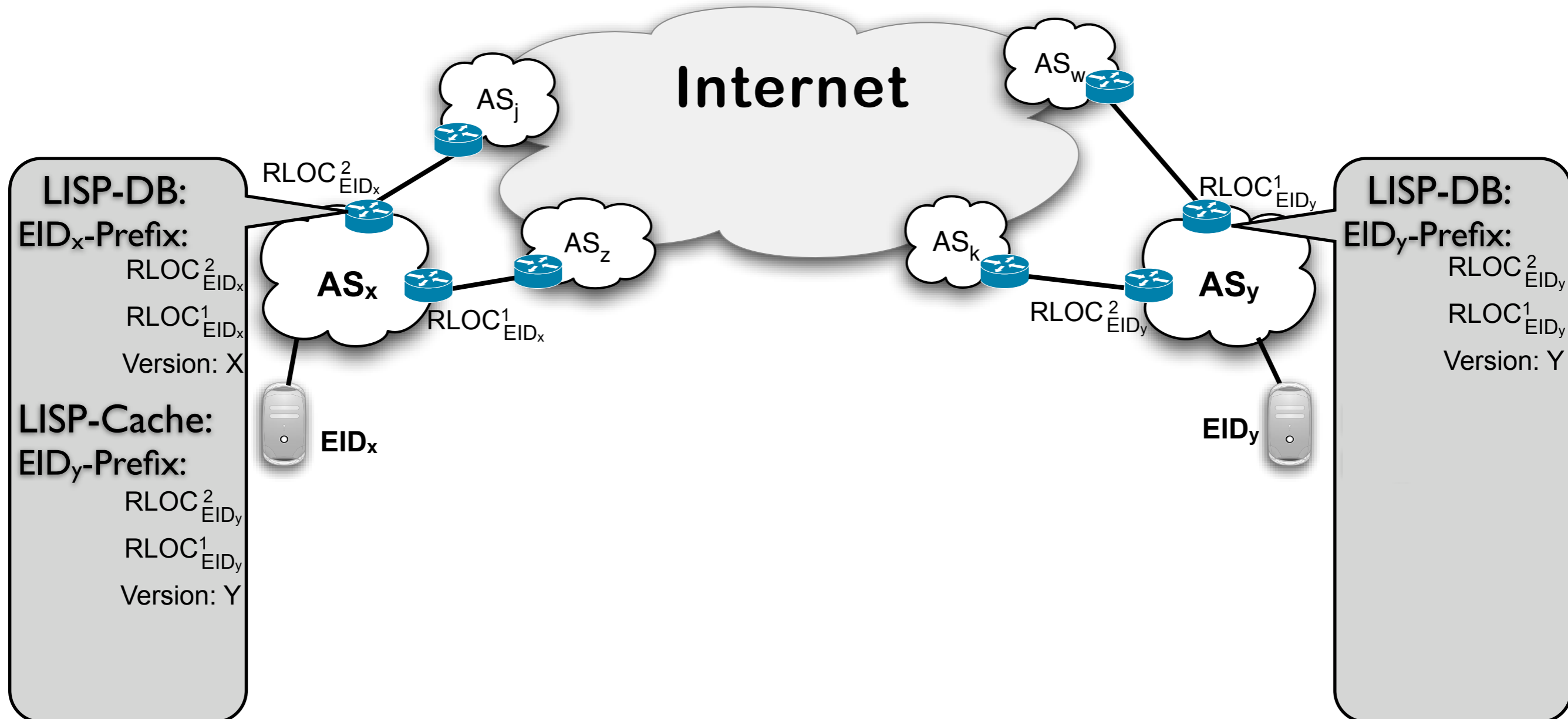
Mapping Version Numbers



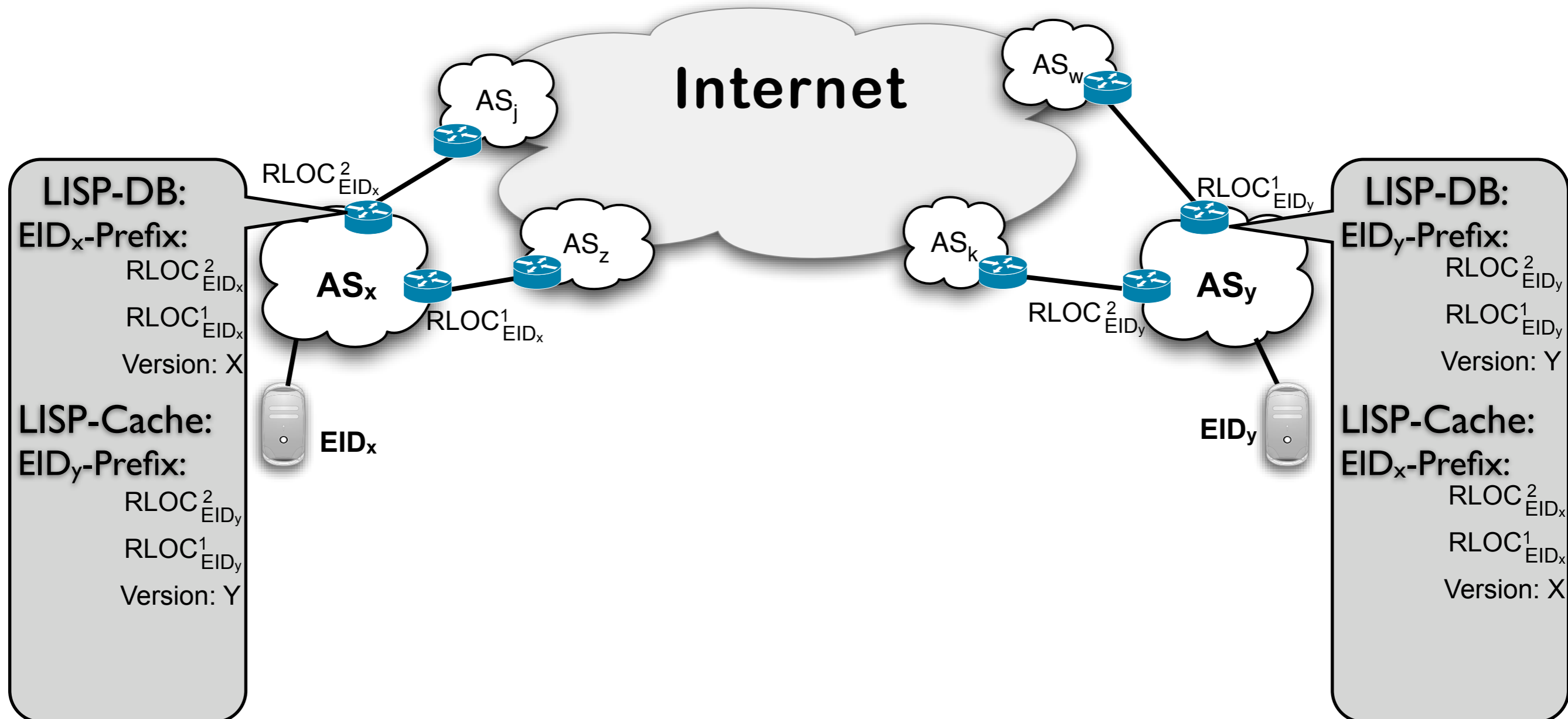
Mapping Version Numbers



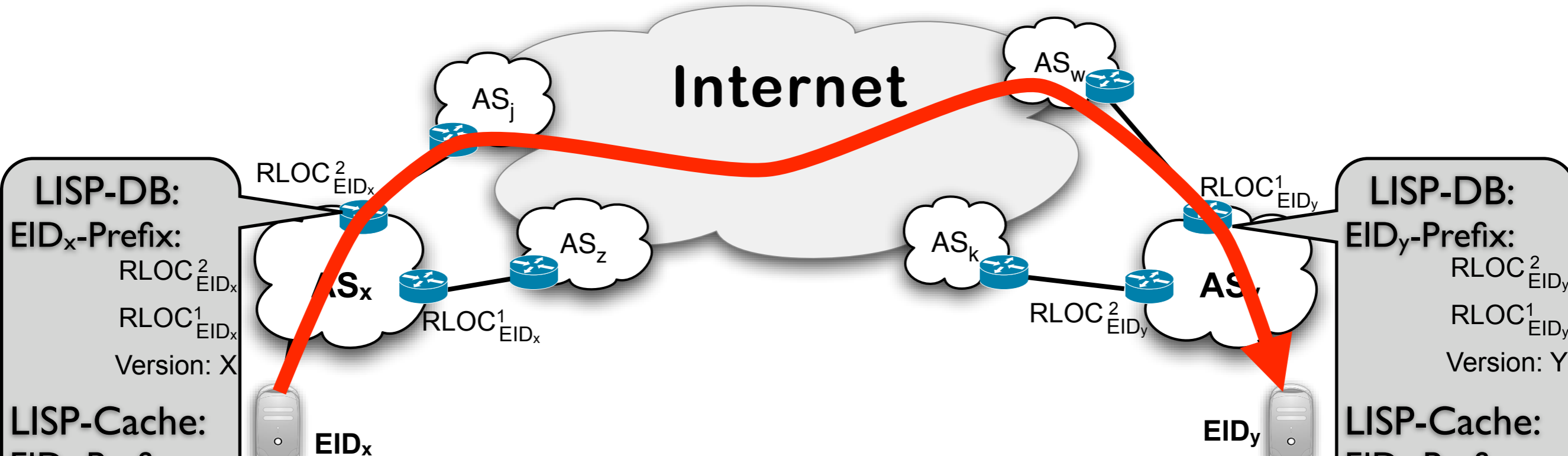
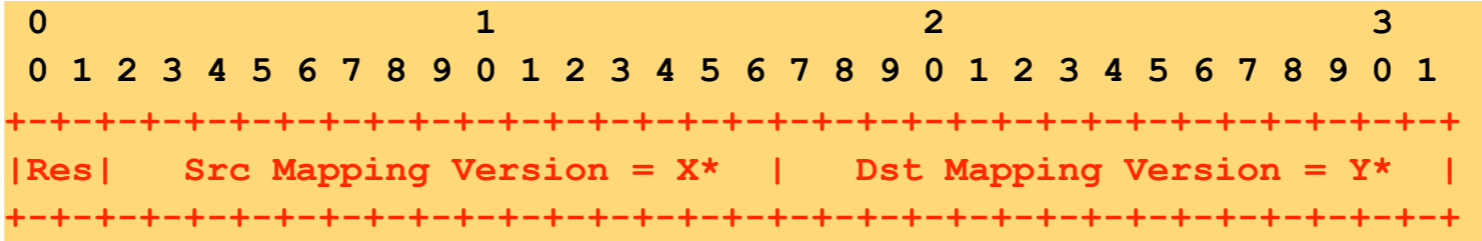
Mapping Version Numbers



Mapping Version Numbers



Src Mapping Version Number



Check On Src Version Number:

- $X^* > X \Rightarrow$ Accept and send Map-Request
- $X^* < X \Rightarrow$ Drop
- $X^* = X \Rightarrow$ Accept

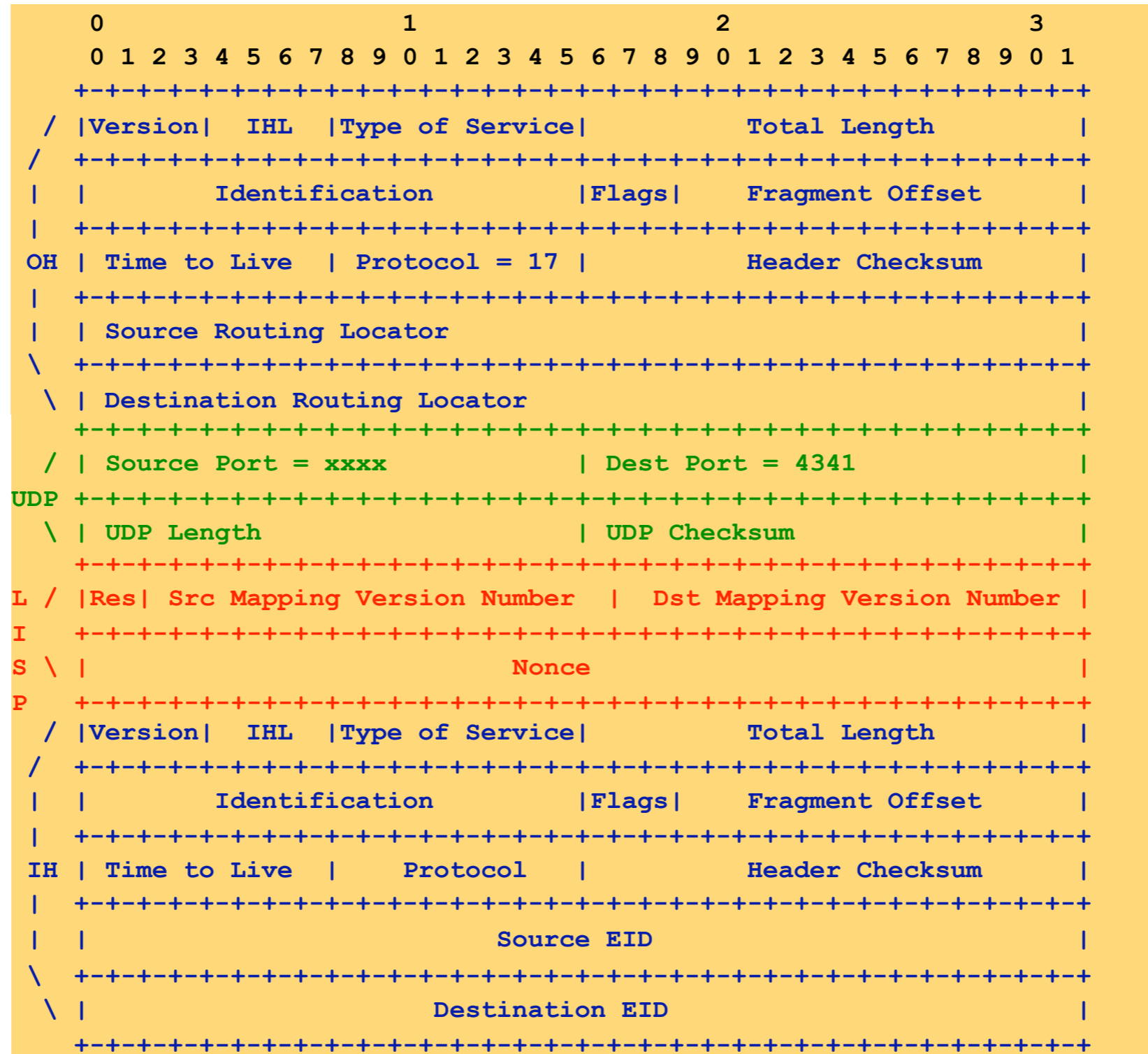
LISP-DB:
 EID_x-Prefix:
 RLOC²_{EID_x}
 RLOC¹_{EID_x}
 Version: X

LISP-Cache:
 EID_y-Prefix:
 RLOC²_{EID_y}
 RLOC¹_{EID_y}
 Version: Y

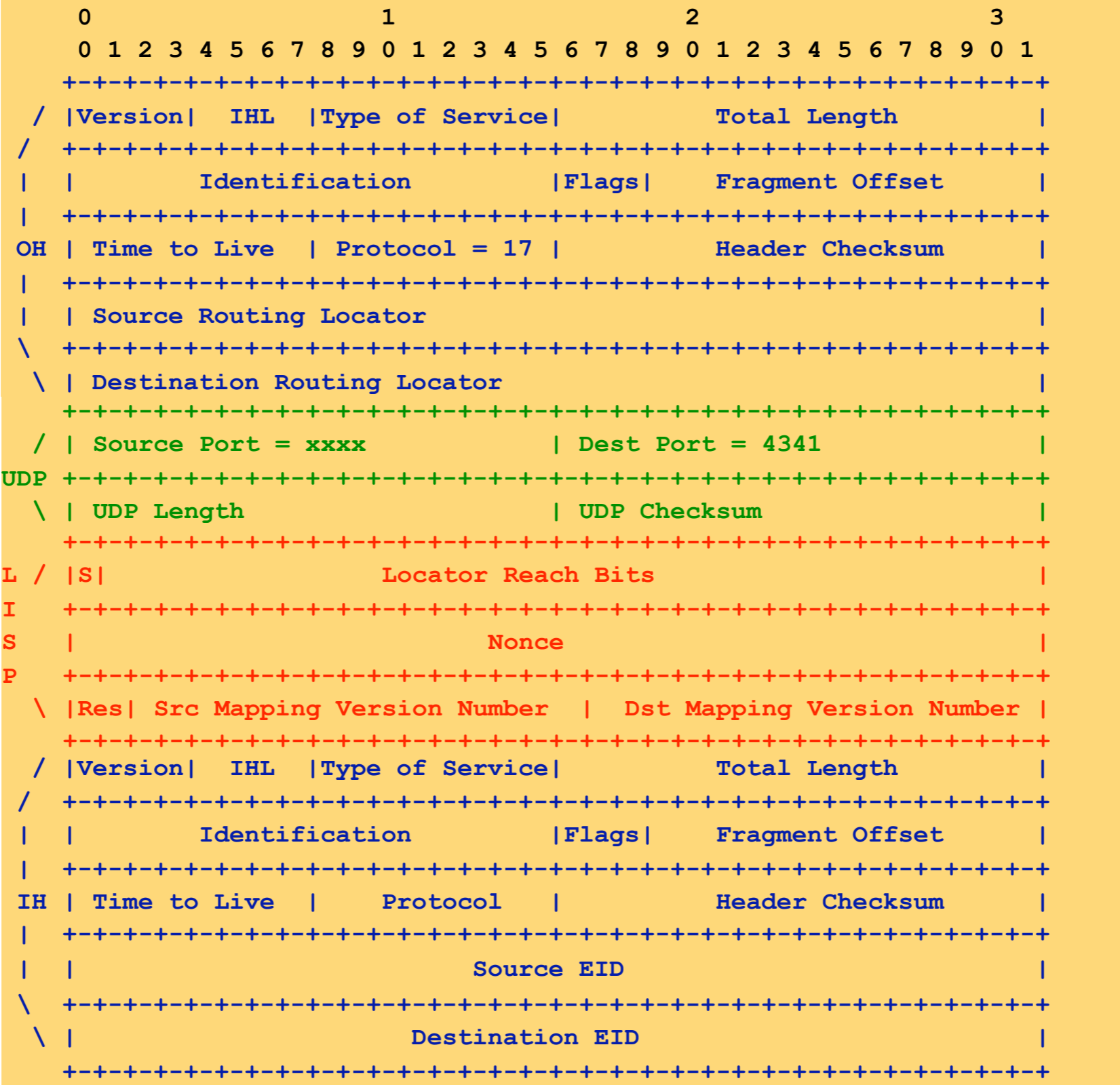
LISP-DB:
 EID_y-Prefix:
 RLOC²_{EID_y}
 RLOC¹_{EID_y}
 Version: Y

LISP-Cache:
 EID_x-Prefix:
 RLOC²_{EID_x}
 RLOC¹_{EID_x}
 Version: X

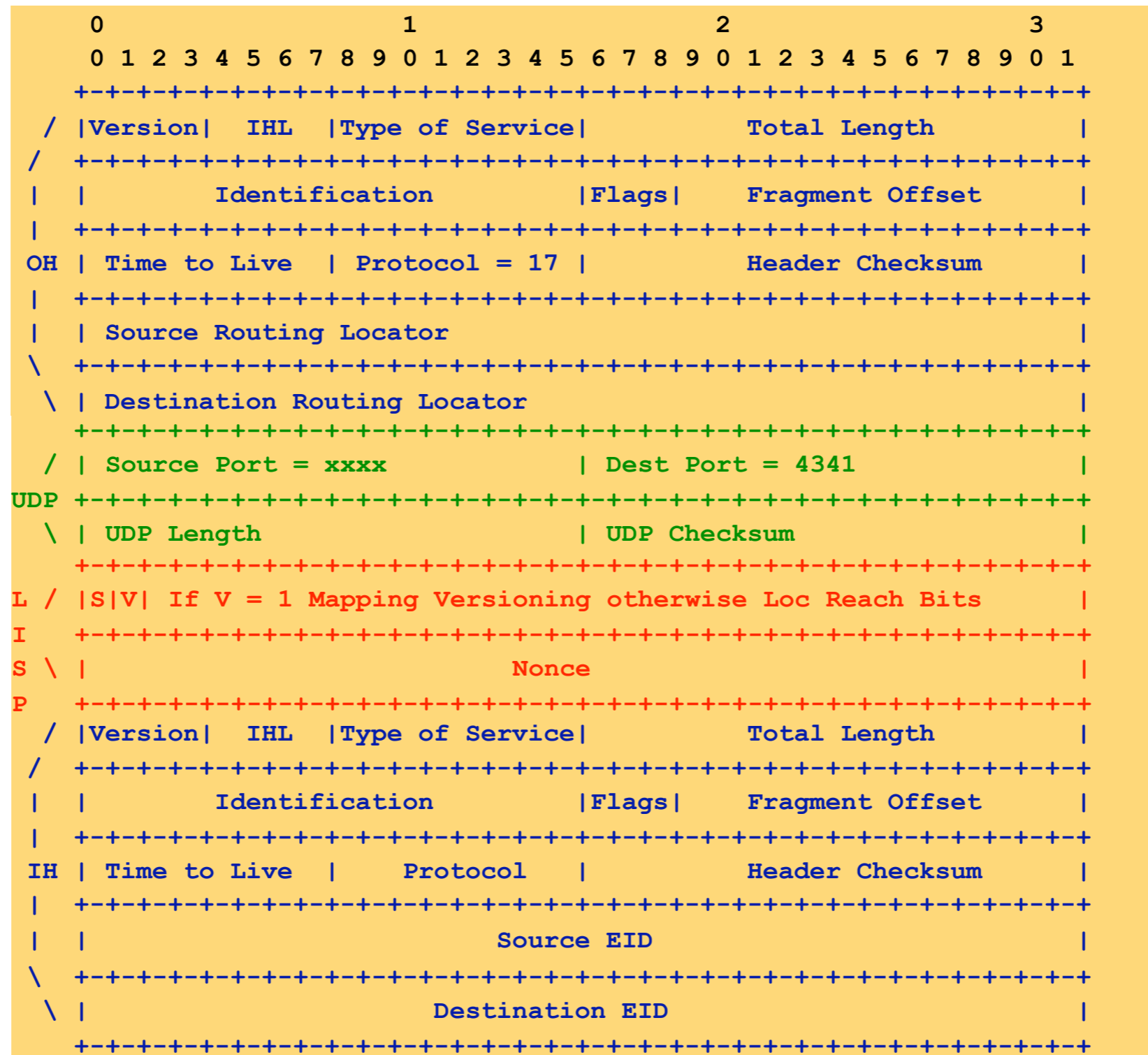
LISP Encap Option 1



LISP Encap Option II



LISP Encap Option III



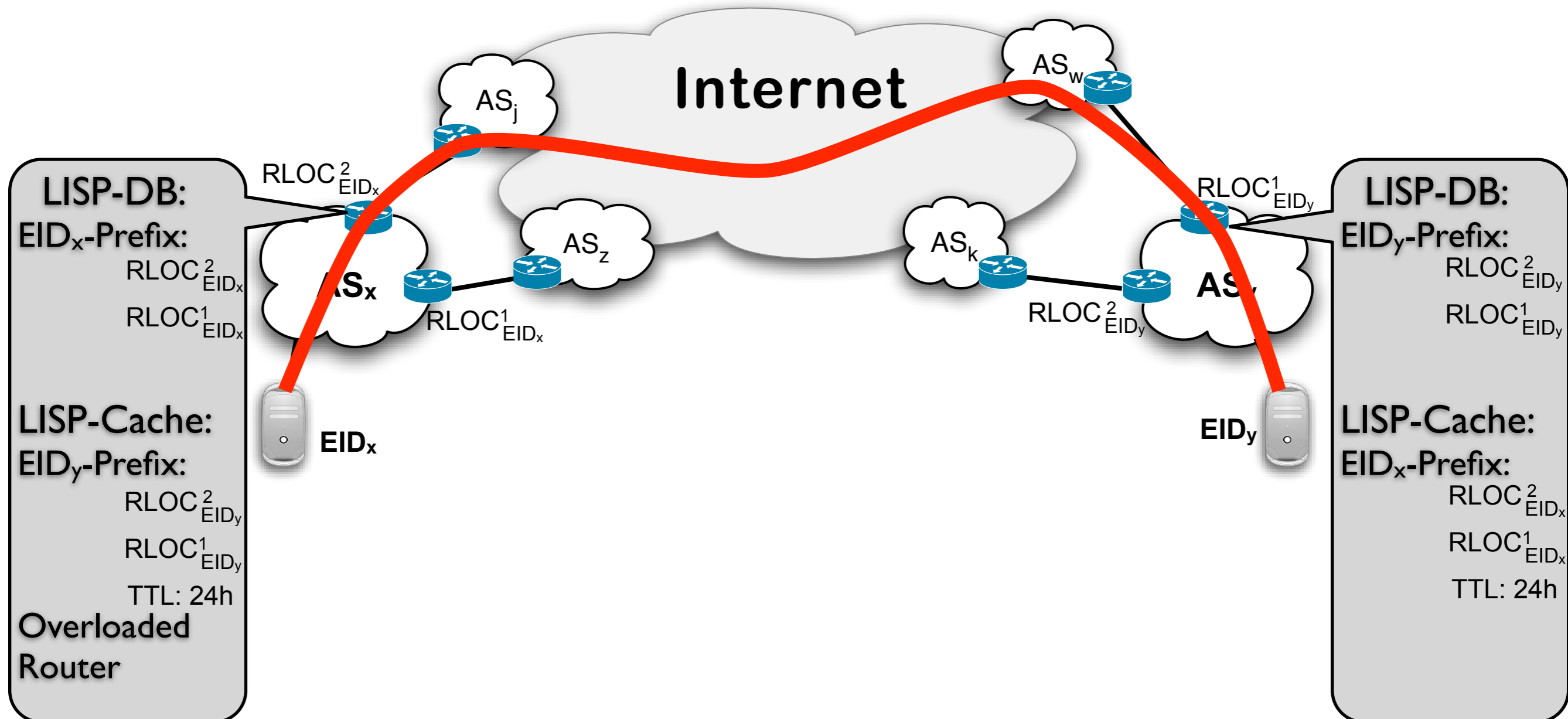
SMR and Reach Bits

- Reach Bits
 - Just a hint
 - Upon a change in the Reach Bits a Map-Request must be sent (low Reach Bit significance)
- SMR
 - Control Plane has to keep track to who is necessary to send the SMR bit and who has already updated the mapping

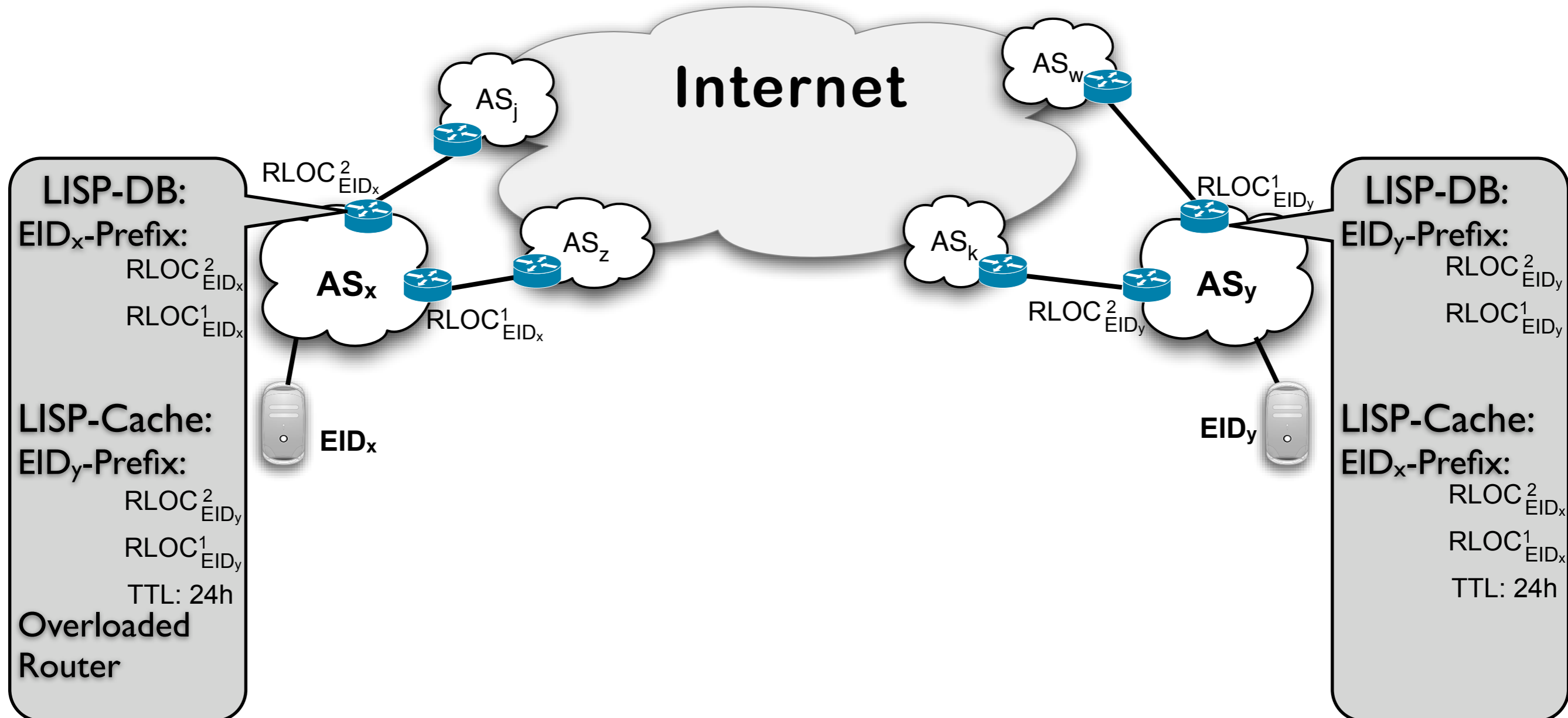
Mapping Versioning

- Data-Plane conveys information how the packets have been encapsulated
- Upon a change in the version a Map-Request (or Map-Update-Solicitation) must be sent
- Control Plane “lighter” (no tracking necessary)
- Control Plane just send Map-Request/Map-Update-Solicitation triggered by the Data Plane
- Internet-wide updates are data-driven (Clock sweep not necessary)

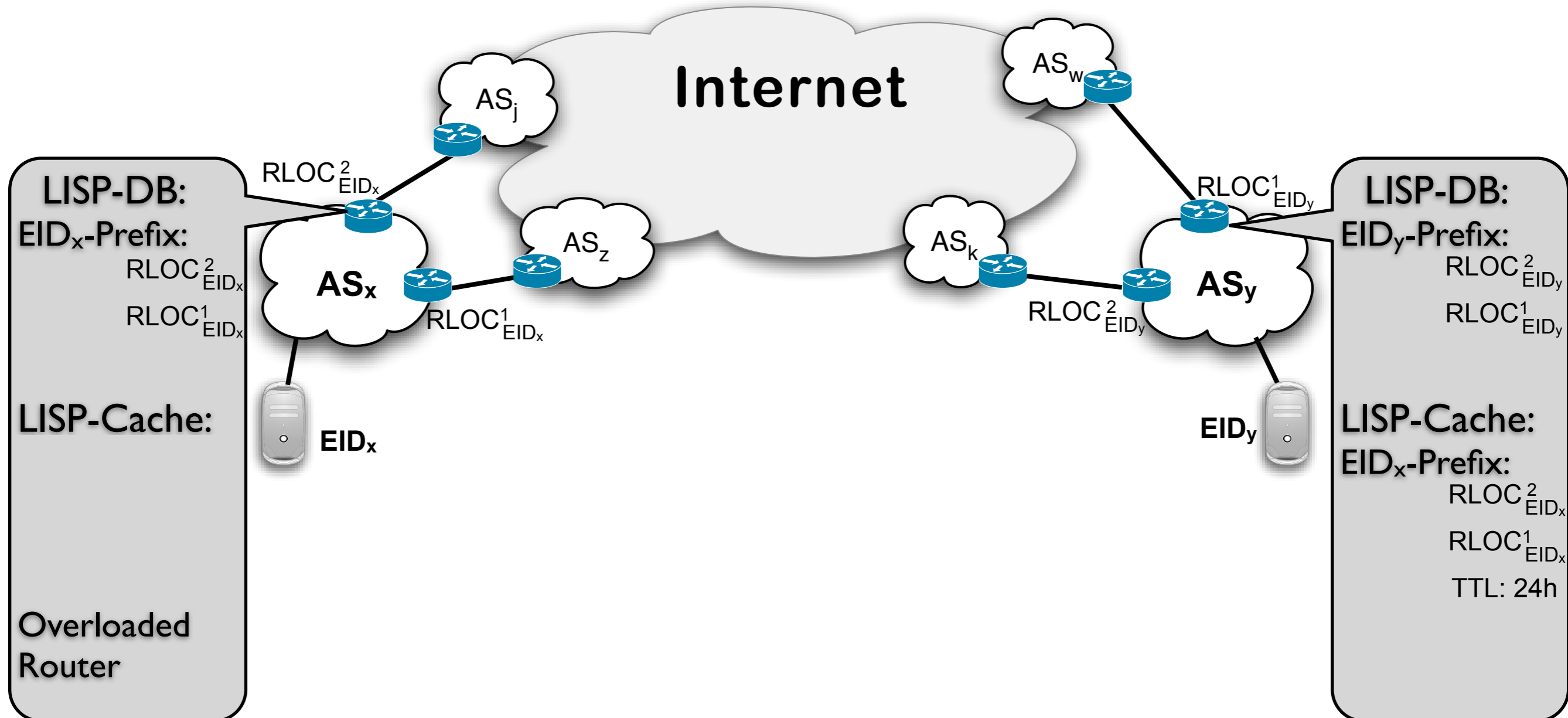
Using Stale Mappings



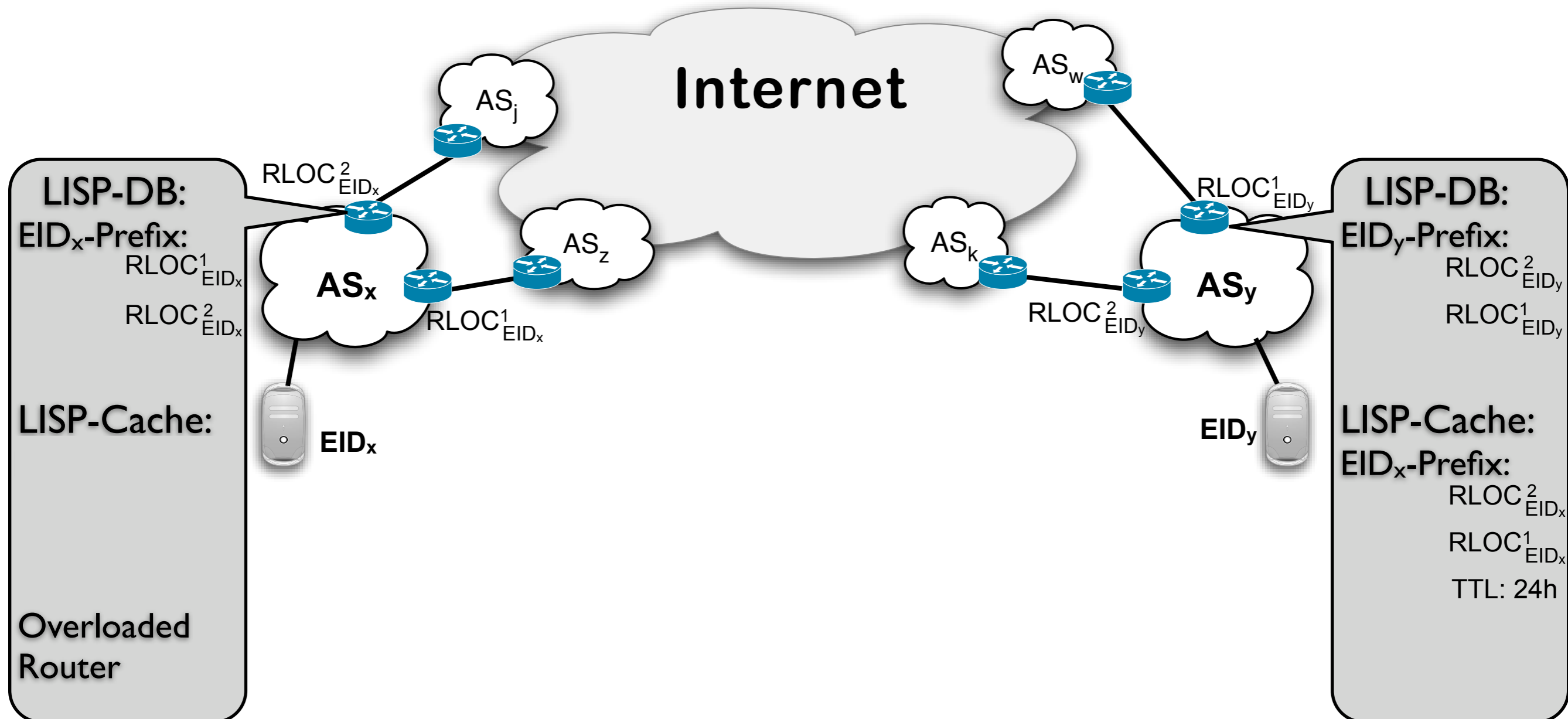
Using Stale Mappings



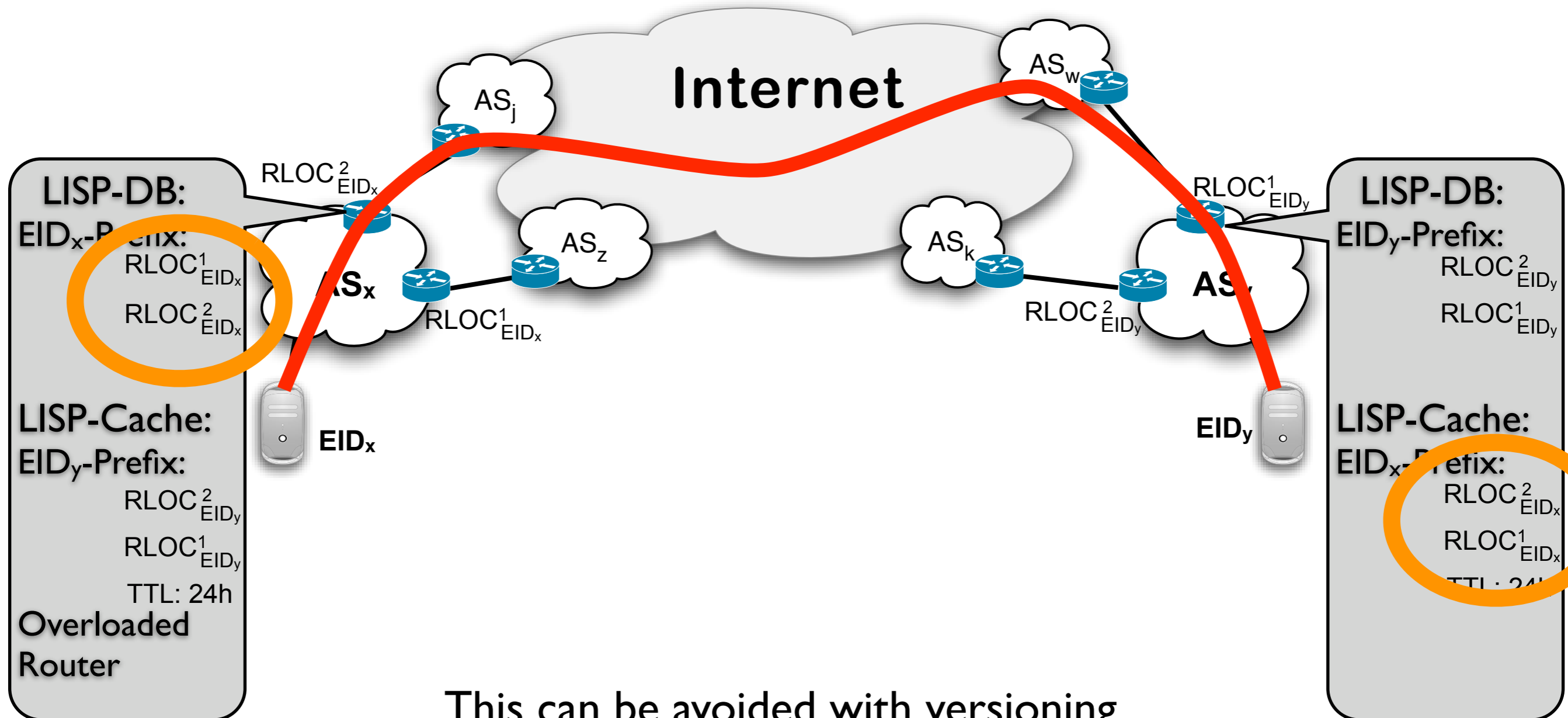
Using Stale Mappings



Using Stale Mappings



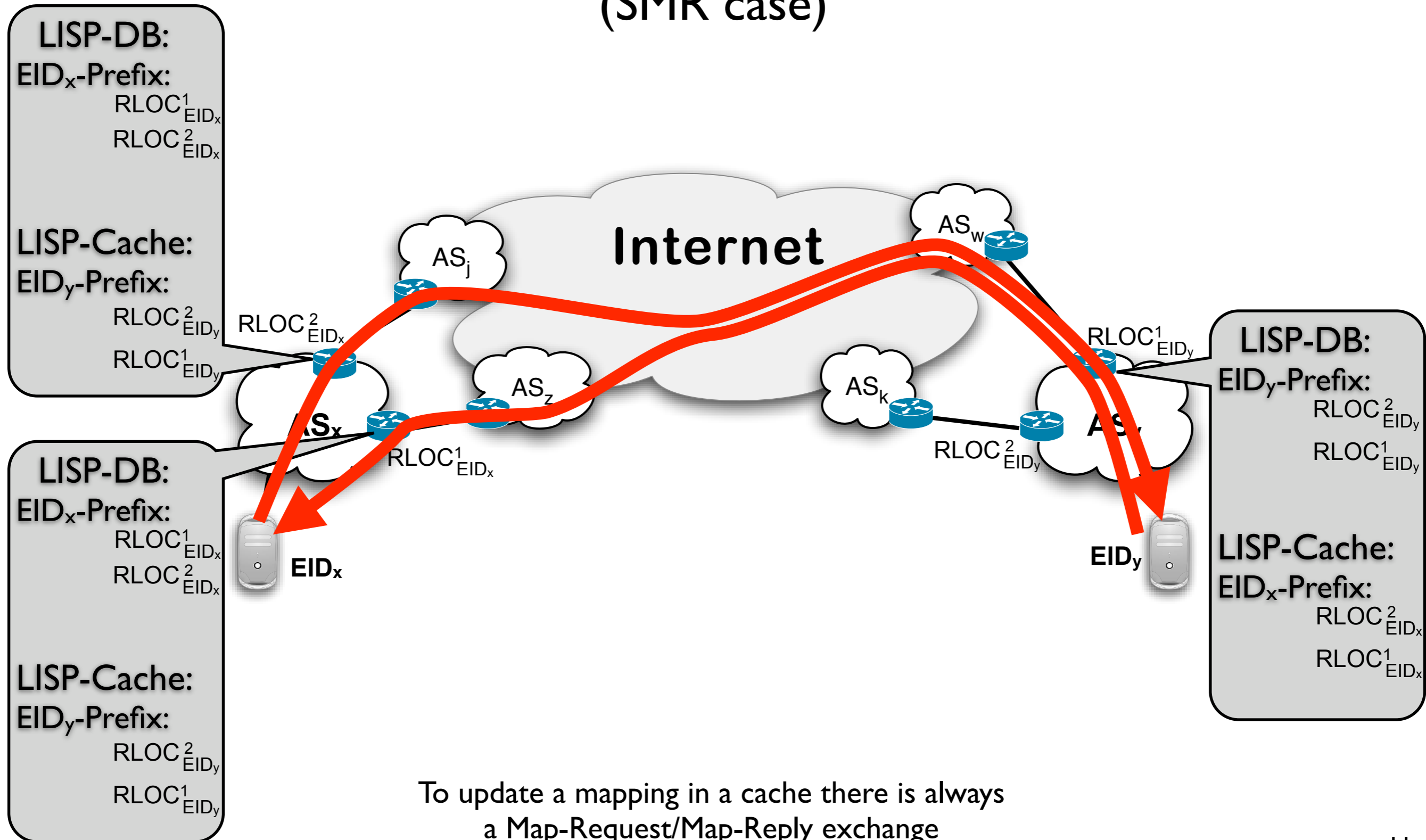
Using Stale Mappings



This can be avoided with versioning

Unidirectional Traffic

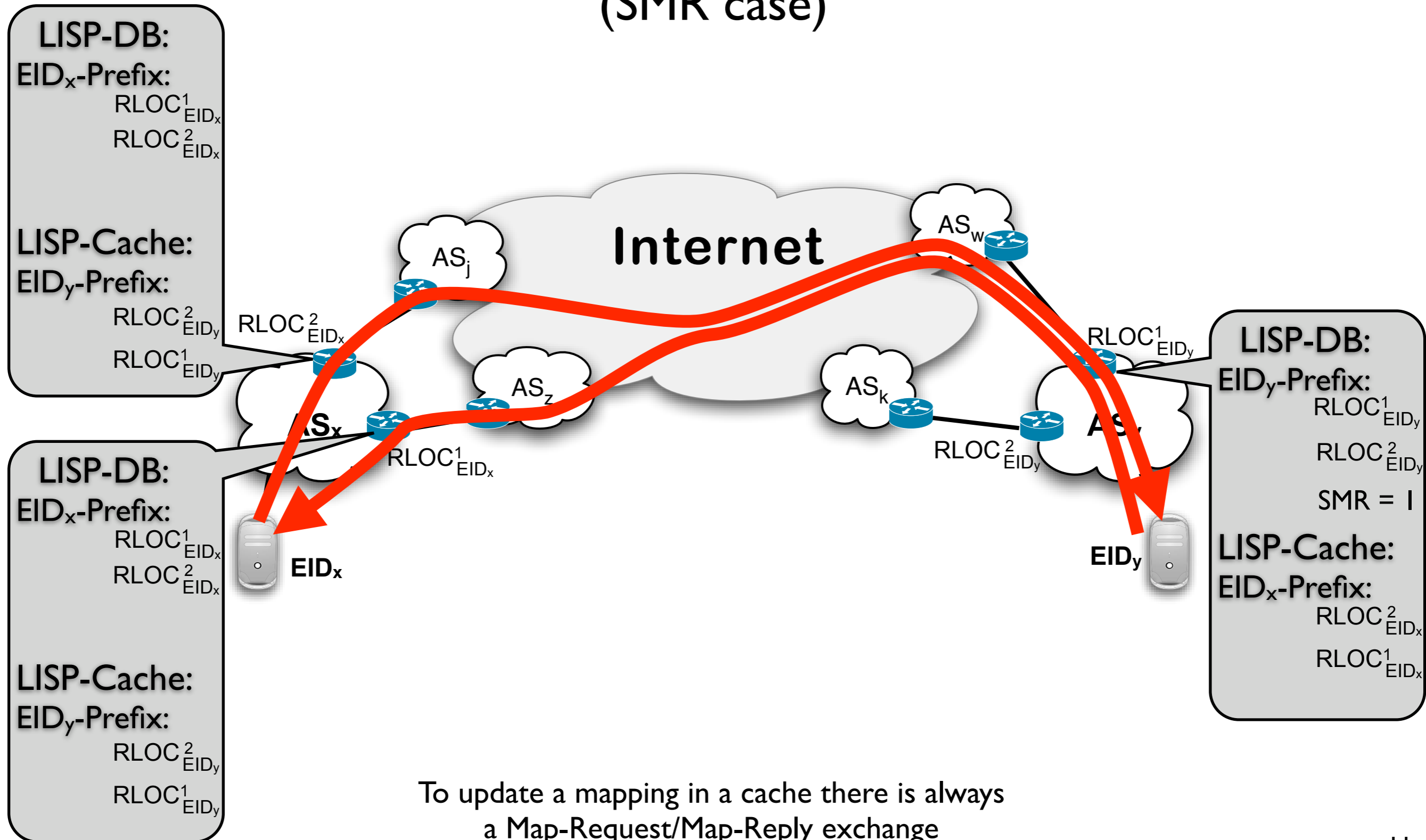
(SMR case)



To update a mapping in a cache there is always a Map-Request/Map-Reply exchange

Unidirectional Traffic

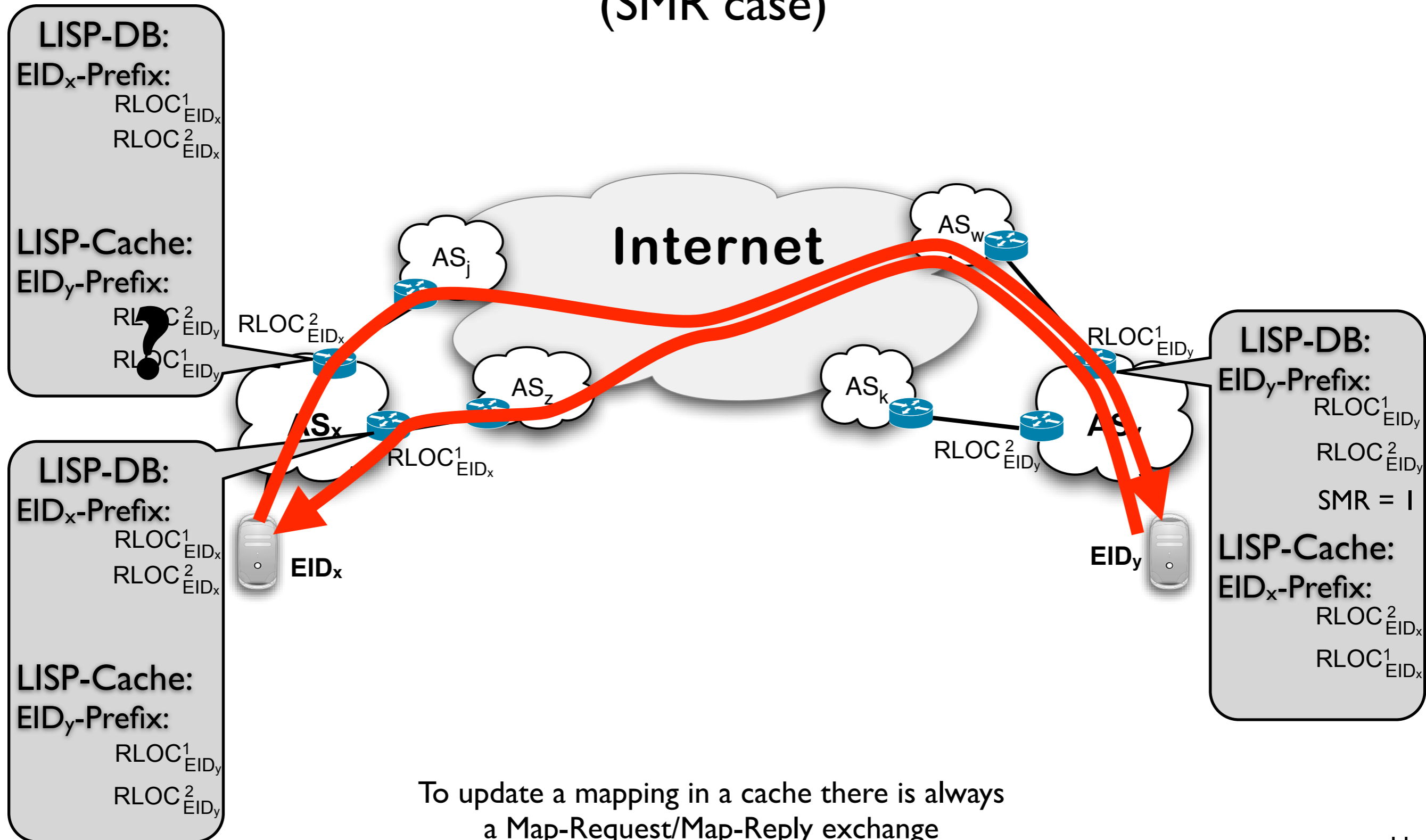
(SMR case)



To update a mapping in a cache there is always a Map-Request/Map-Reply exchange

Unidirectional Traffic

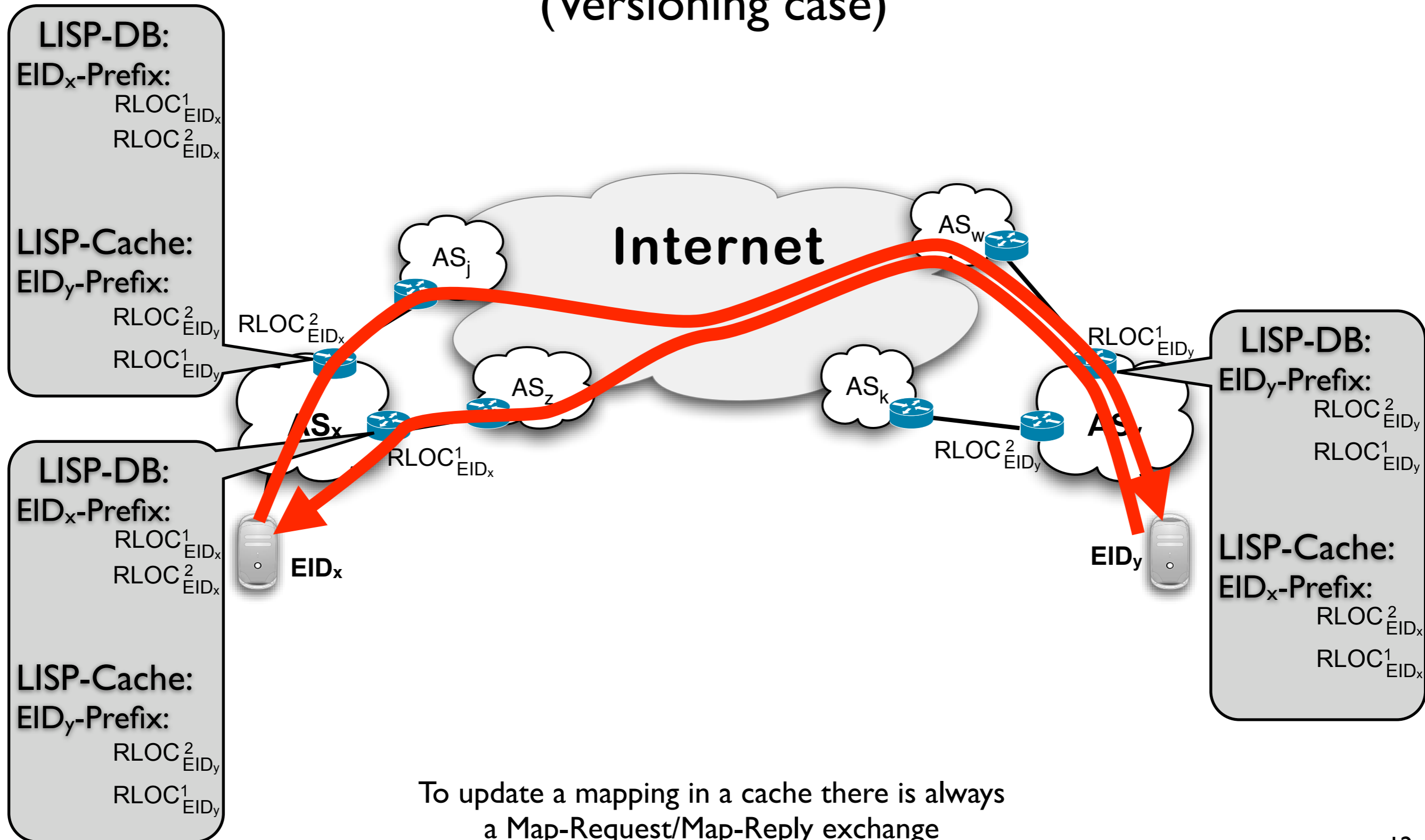
(SMR case)



To update a mapping in a cache there is always a Map-Request/Map-Reply exchange

Unidirectional Traffic

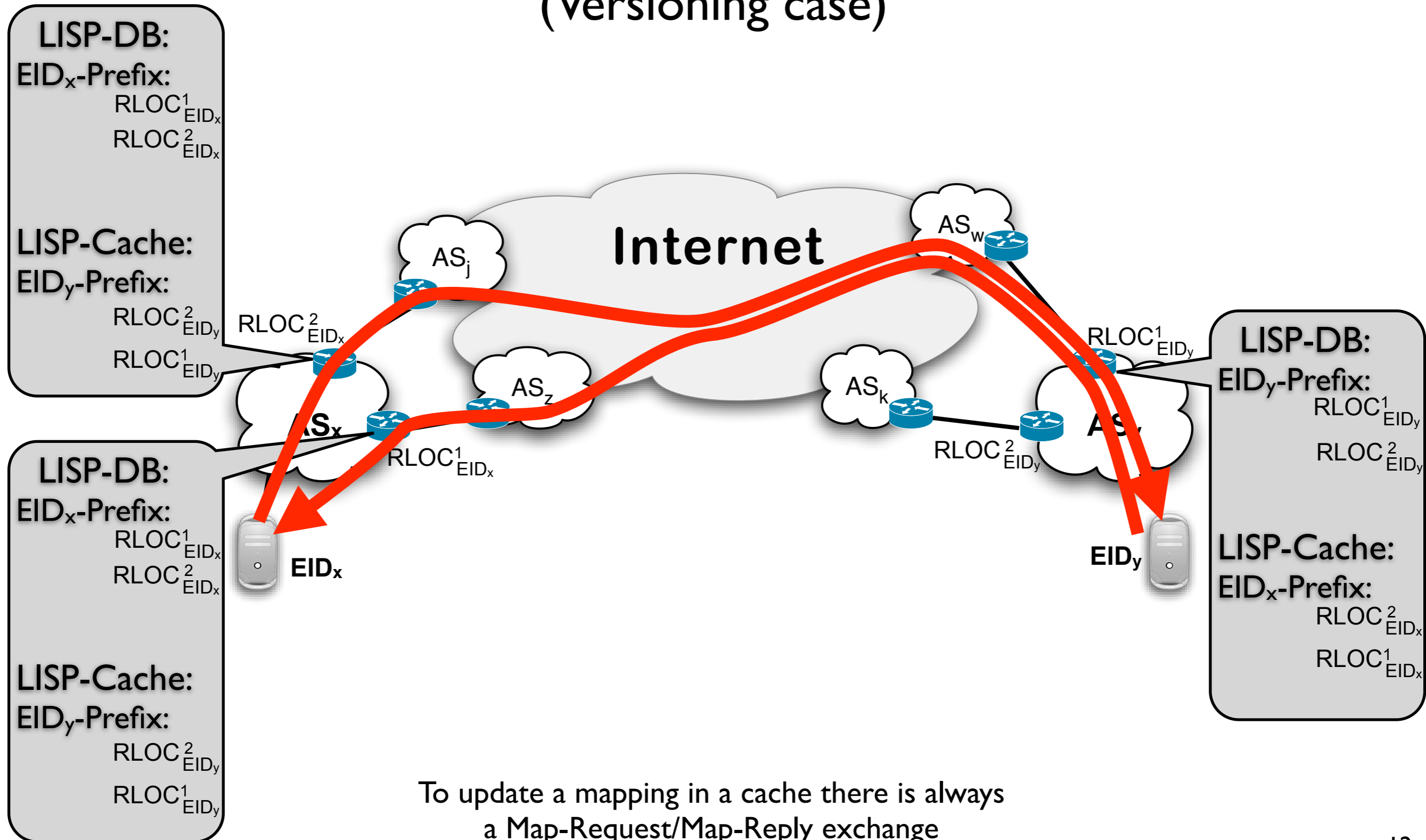
(Versioning case)



To update a mapping in a cache there is always a Map-Request/Map-Reply exchange

Unidirectional Traffic

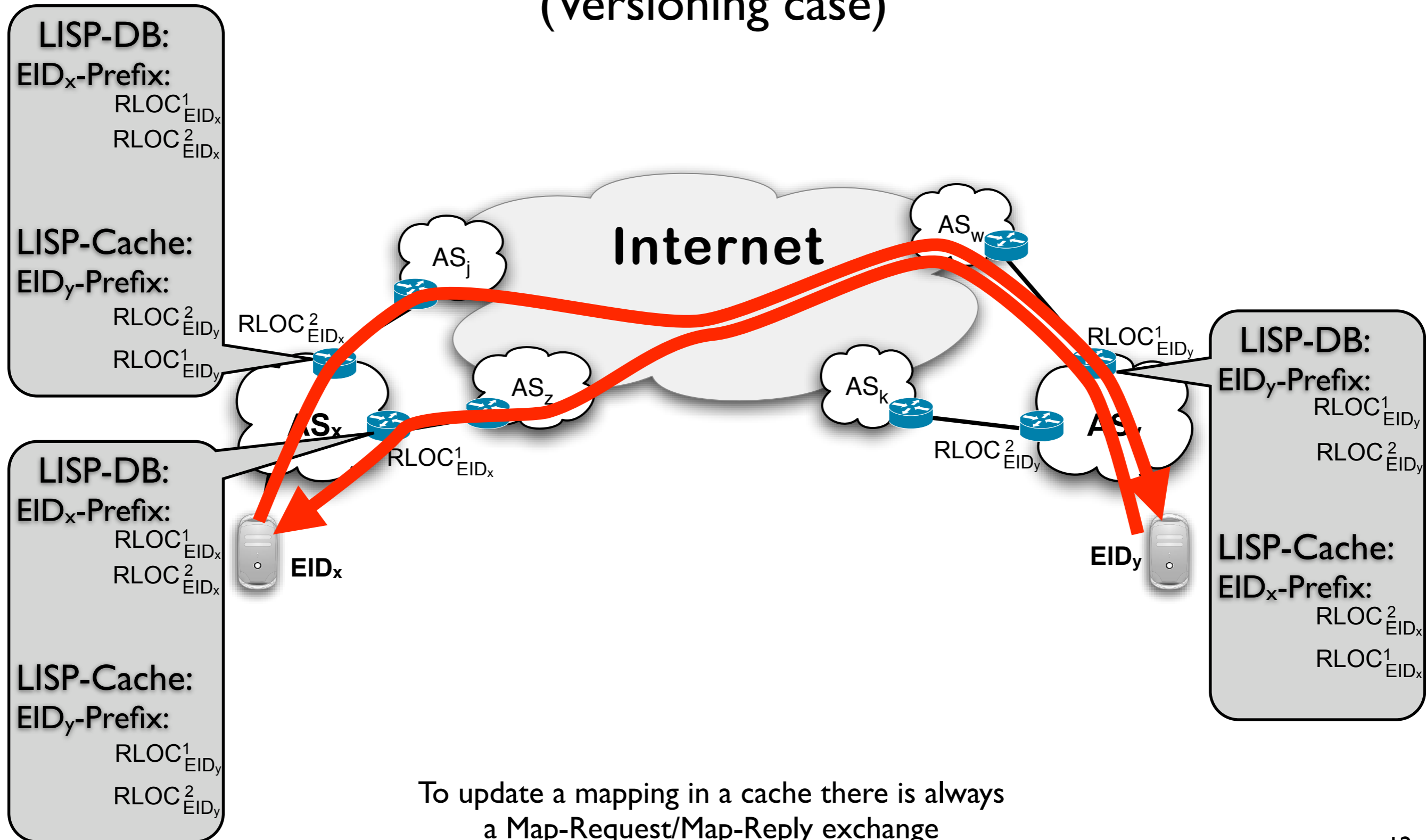
(Versioning case)



To update a mapping in a cache there is always a Map-Request/Map-Reply exchange

Unidirectional Traffic

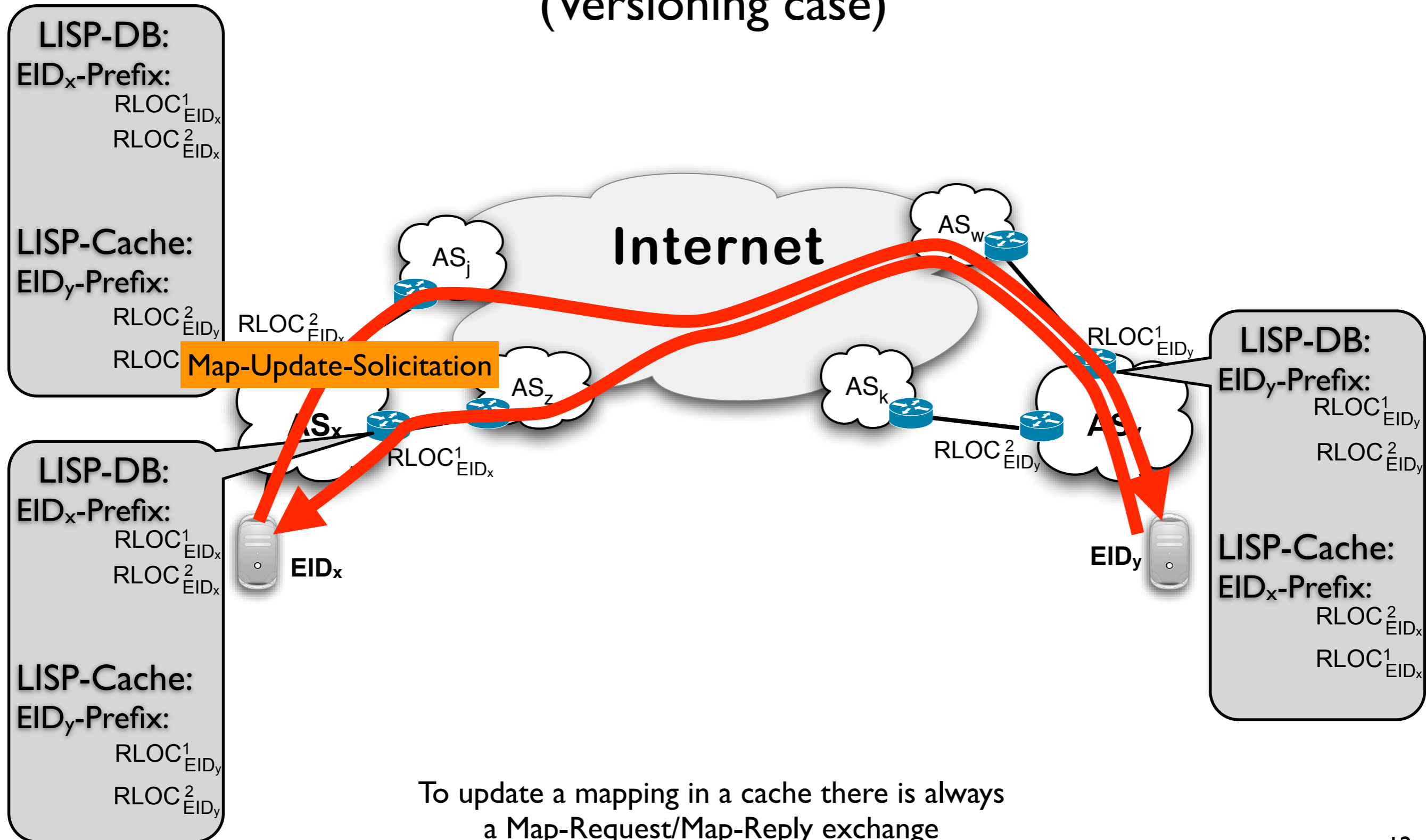
(Versioning case)



To update a mapping in a cache there is always a Map-Request/Map-Reply exchange

Unidirectional Traffic

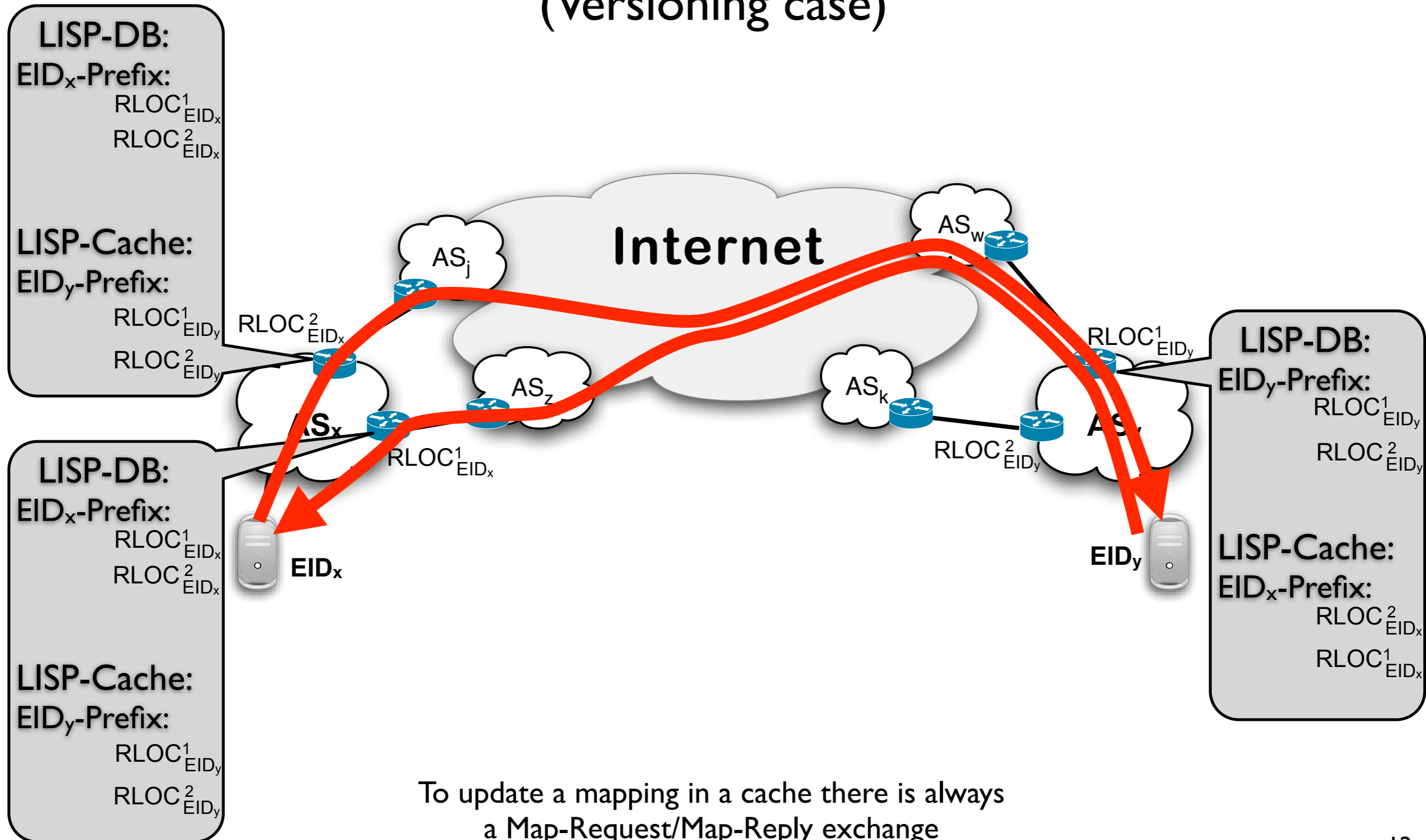
(Versioning case)



To update a mapping in a cache there is always a Map-Request/Map-Reply exchange

Unidirectional Traffic

(Versioning case)



To update a mapping in a cache there is always a Map-Request/Map-Reply exchange

WG Document?

