Signal-Free LISP Multicast

draft-farinacci-lisp-signal-free-02

LISP Working Group - Dallas IETF
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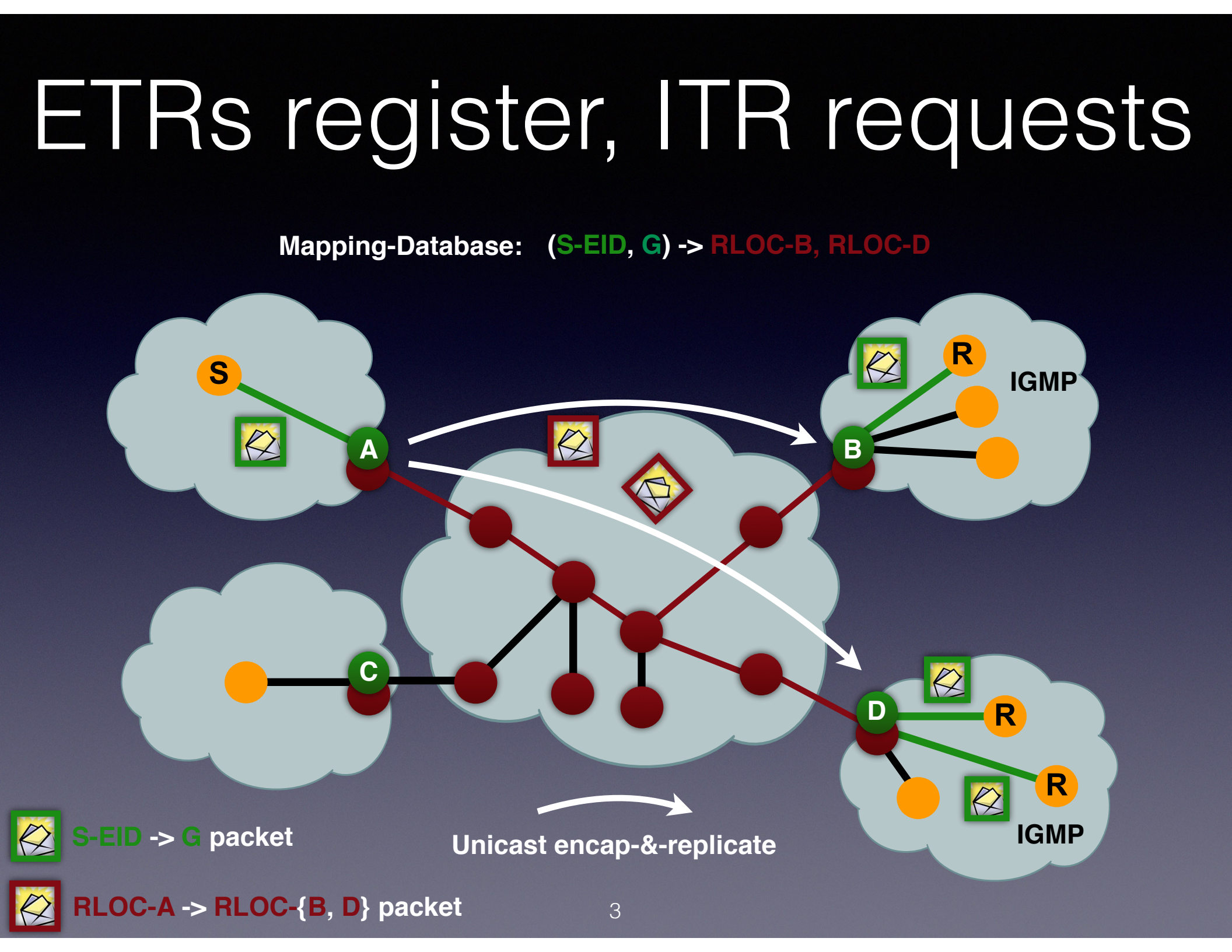
Document Status

- Initial Idea for LISP Signal-Free Multicast (LISP-SFM)
  - Presented at Berlin MBONED WG July 2013
- ***draft-farinacci-lisp-signal-free-multicast-00***
  - Published in Feb 2014, presented at London LISP WG March 2014
- ***draft-farinacci-lisp-signal-free-multicast-01***
  - Published in Jun 2014, after implementation experience
- ***draft-farinacci-lisp-signal-free-multicast-02***
  - Published Dec 2014 to integrate LISP-RE logic

ETRs register, ITR requests



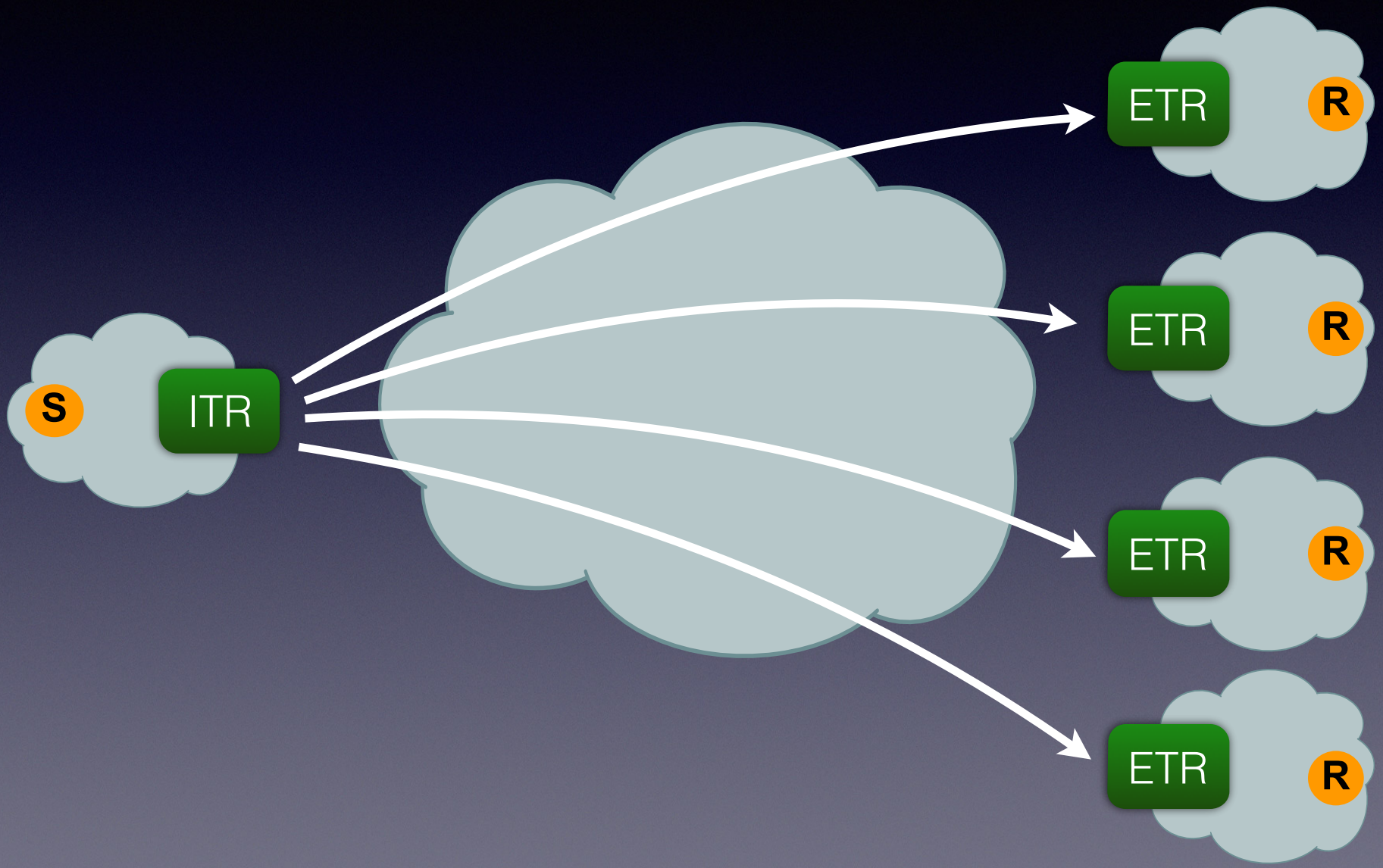
Controlling HER

- Signal-free Multicast certainly brings benefits to multicast hosts and efficient multicast packet delivery across diverse networks
- But comes at a cost of Head-End Replication
- We want to use LISP-RE to help avoid HER
- So we would like to simplify the LISP-RE mechanisms and make it easier to manage

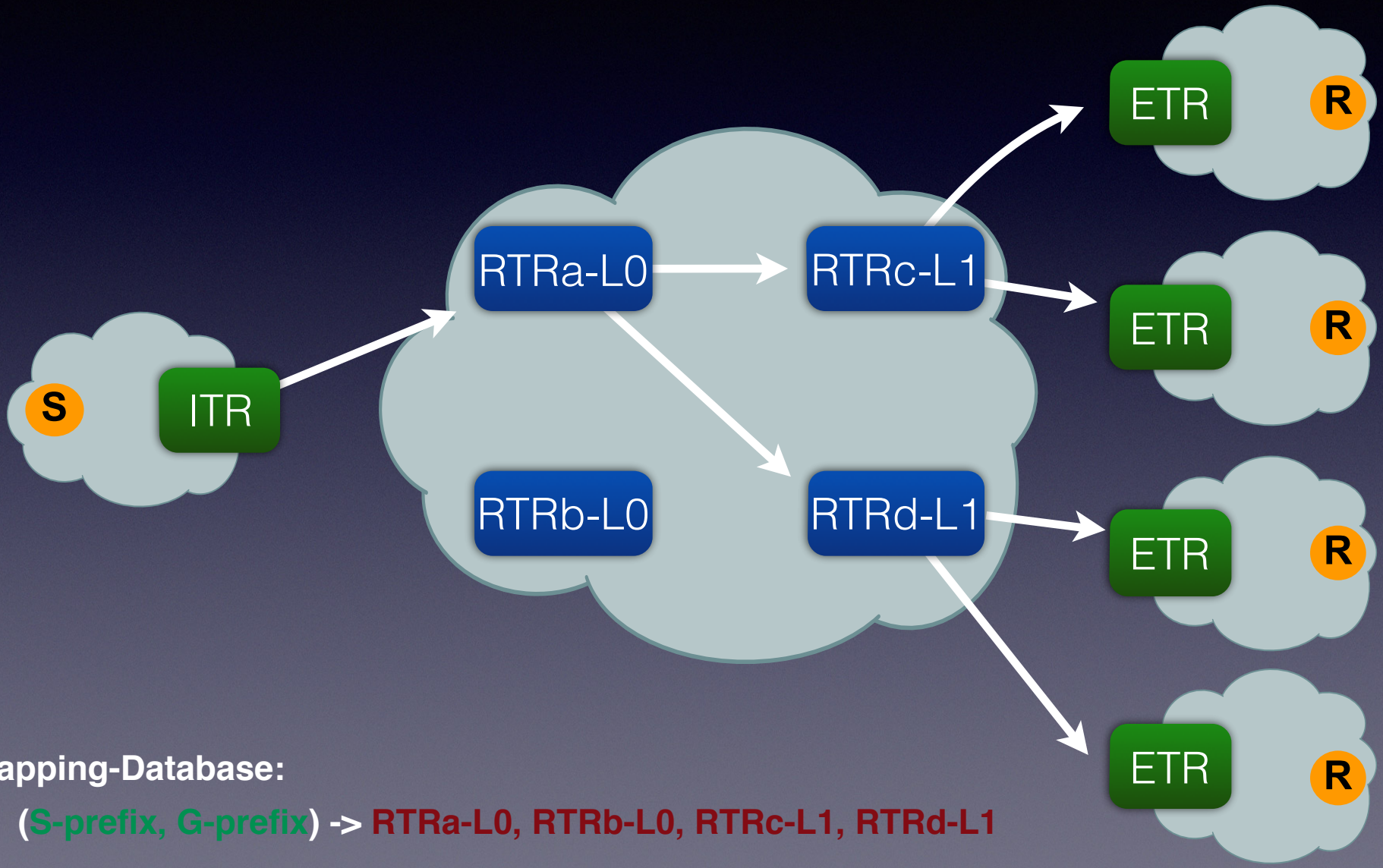
Signal-Free LISP-RE

- LISP-RE as documented (in **draft-coras-lisp-re-06)** provides for a layered overlay topology for replication
- A subset of this topology contains state for active sources and receiver LISP sites so replication happens only to where packets need to go
- LISP-RE states use of signaling mechanisms documented in RFC 6831 or **draft-farinacci-lisp-mr-signaling-06**
- Let's show how the mapping database can be used without explicit signaling

Default SFM



LISP-RE Framework



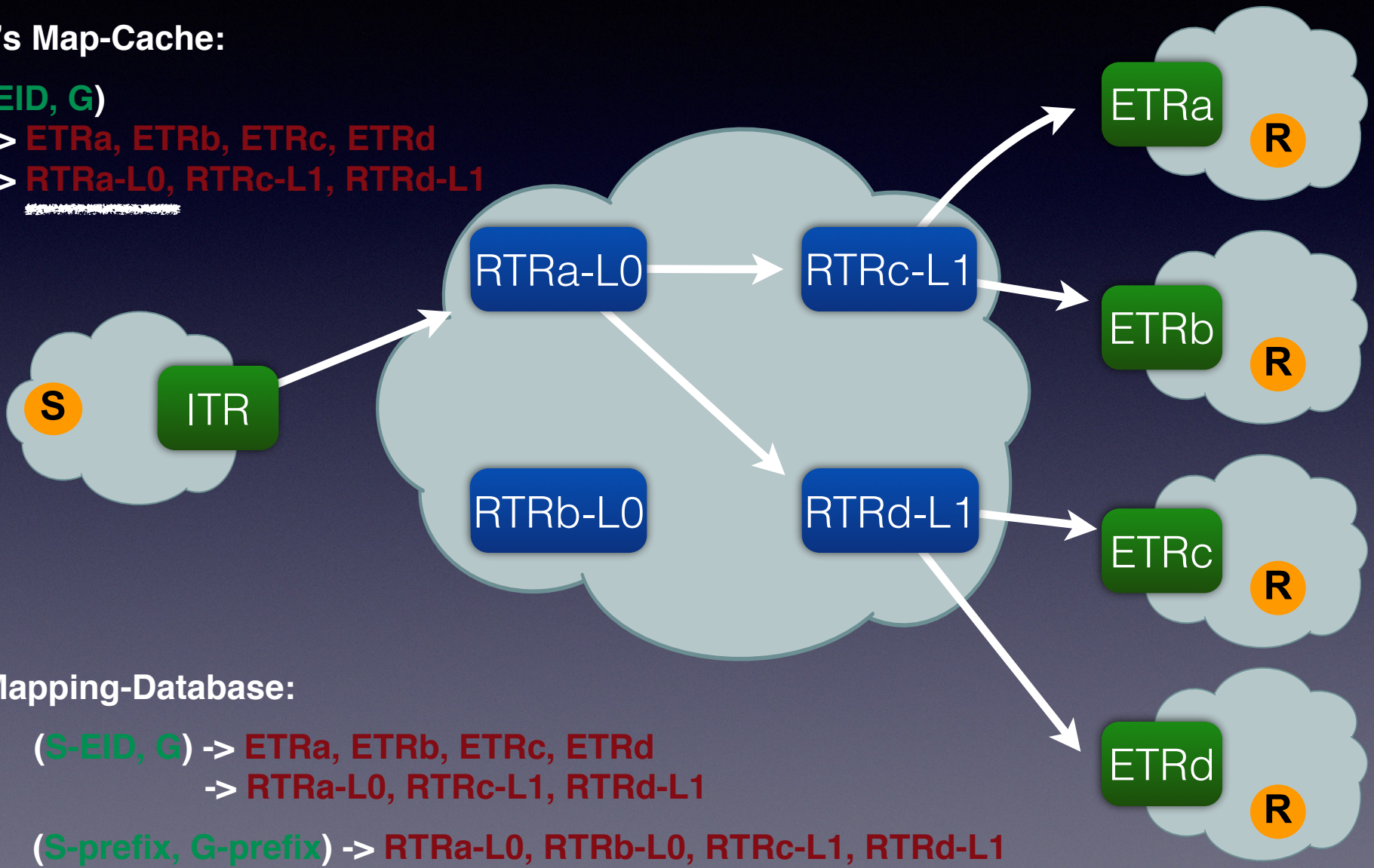
Mapping-Database:

(S-prefix, G-prefix) -> RTRa-L0, RTRb-L0, RTRc-L1, RTRd-L1

(S,G) ‘complete-format’

ITR’s Map-Cache:

(S-EID, G)
-> ETRa, ETRb, ETRc, ETRd
-> RTRa-L0, RTRc-L1, RTRd-L1



Mapping-Database:

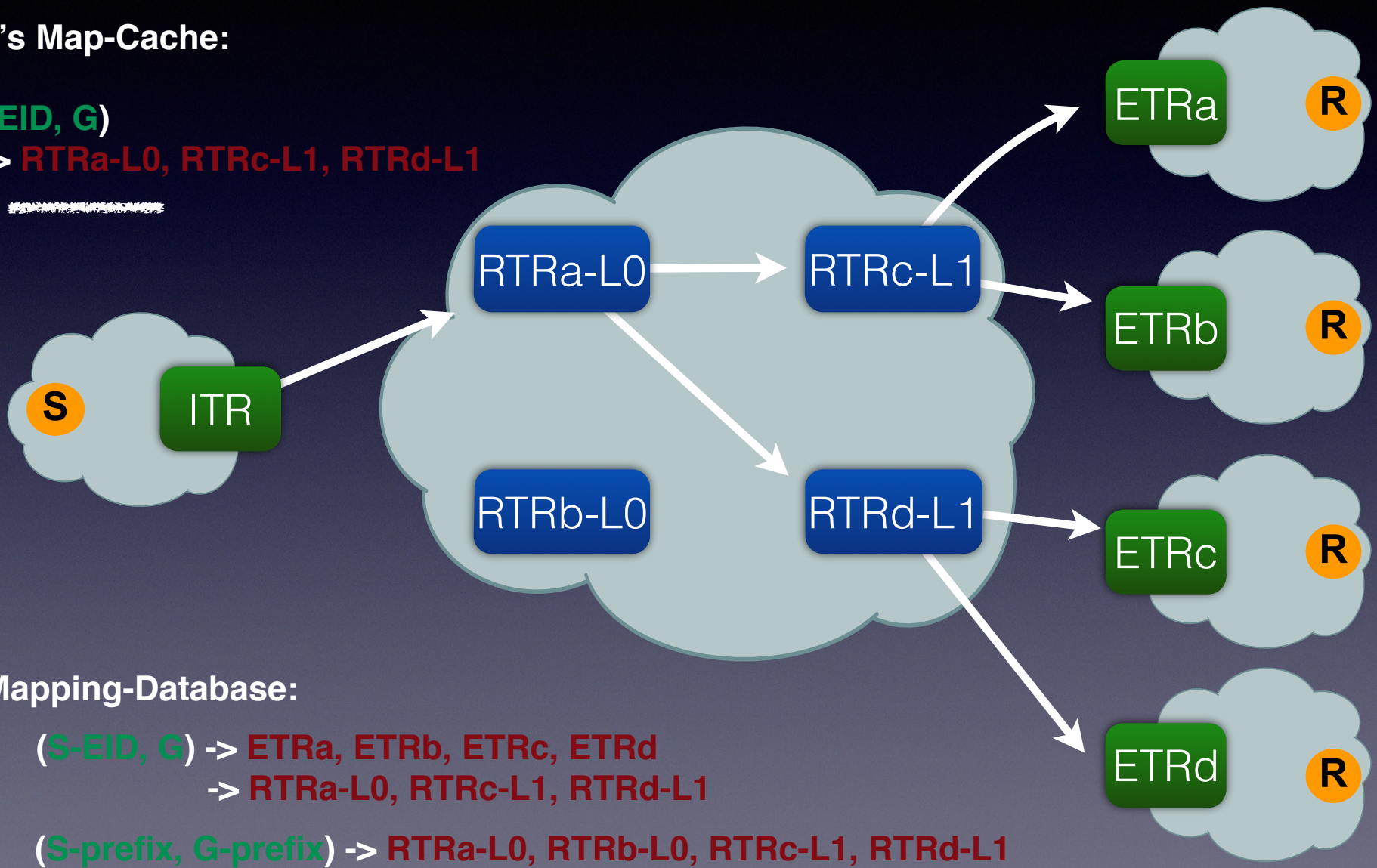
(S-EID, G) -> ETRa, ETRb, ETRc, ETRd
-> RTRa-L0, RTRc-L1, RTRd-L1

(S-prefix, G-prefix) -> RTRa-L0, RTRb-L0, RTRc-L1, RTRd-L1

(S,G) ‘filtered-format’

ITR’s Map-Cache:

(S-EID, G)
-> RTRa-L0, RTRc-L1, RTRd-L1

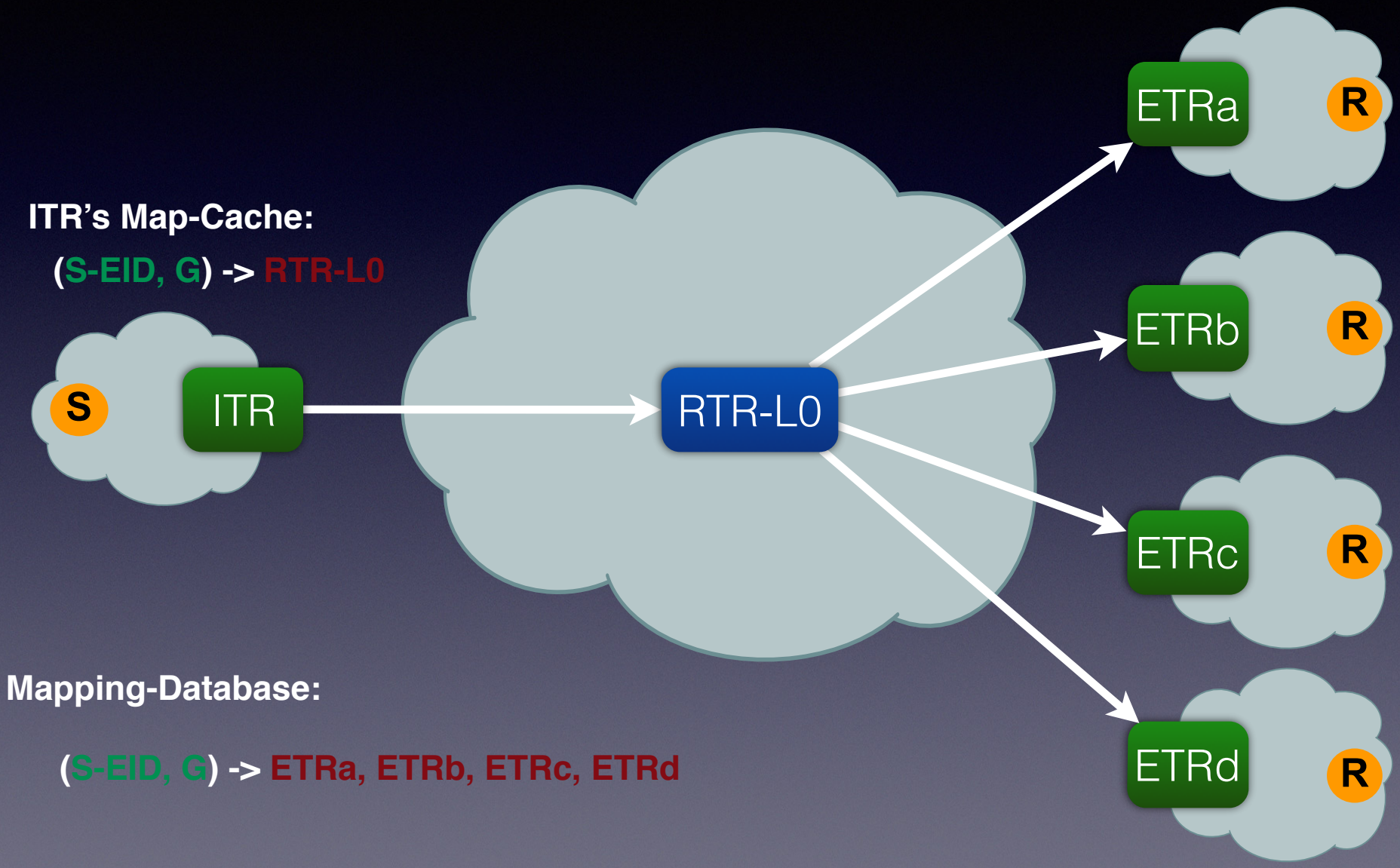


Mapping-Database:

(S-EID, G) -> ETRa, ETRb, ETRc, ETRd
-> RTRa-L0, RTRc-L1, RTRd-L1

(S-prefix, G-prefix) -> RTRa-L0, RTRb-L0, RTRc-L1, RTRd-L1

Expected Deployment Case



Questions?