Advertising MPLS labels in IGPs

draft-gredler-rtgwg-igp-label-advertisement

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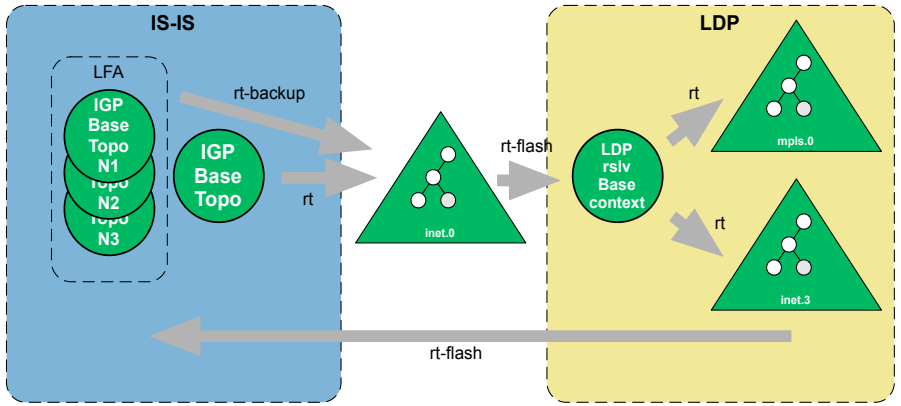
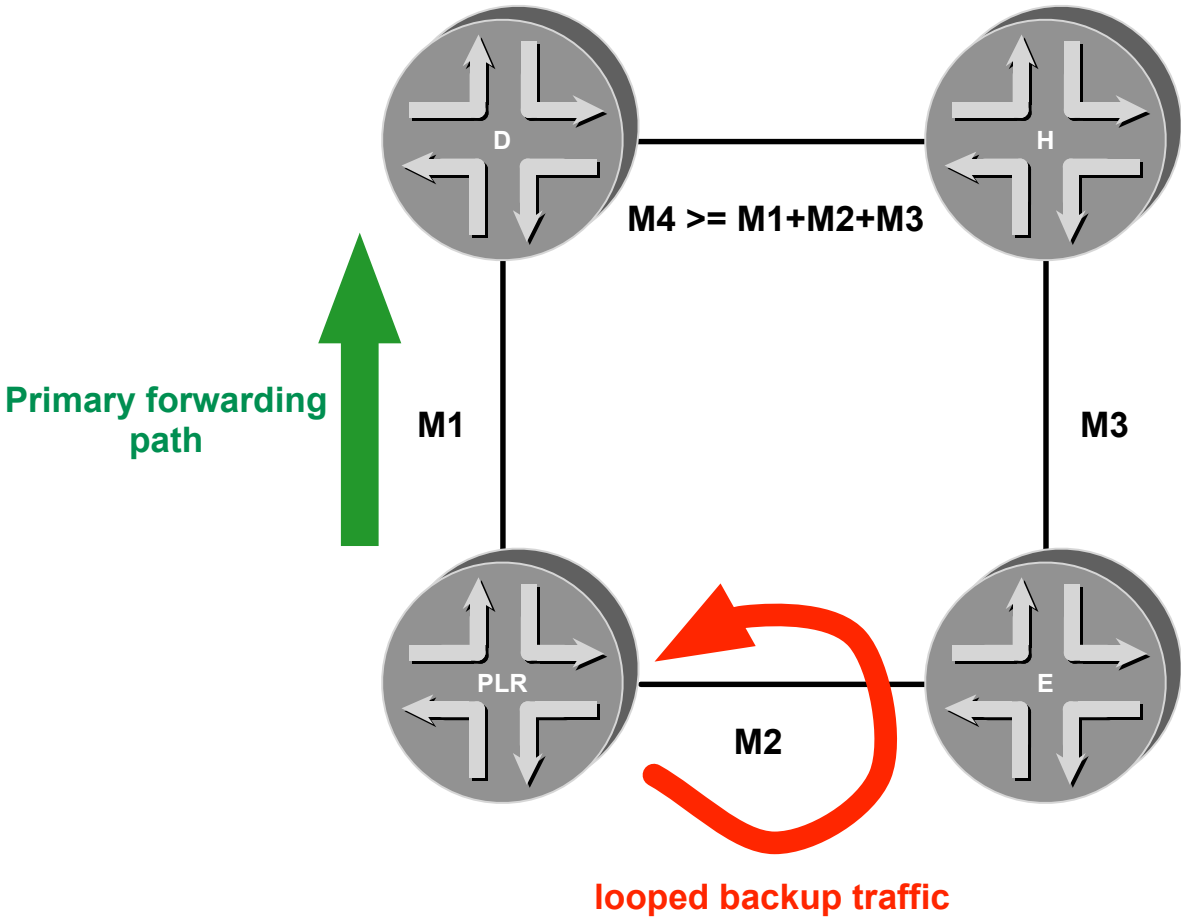
Motivation and Rationale

- R-LFA implementation requires more tight integration of LDP and IGP
  - ***Bi-directional*** notification path between protocols
- MPLS transport label distribution are Session oriented protocols
  - You need to have a ***session*** with a neighbor in order to receive/distribute bindings
- Interesting use cases for >1 hop distribution of transport labels

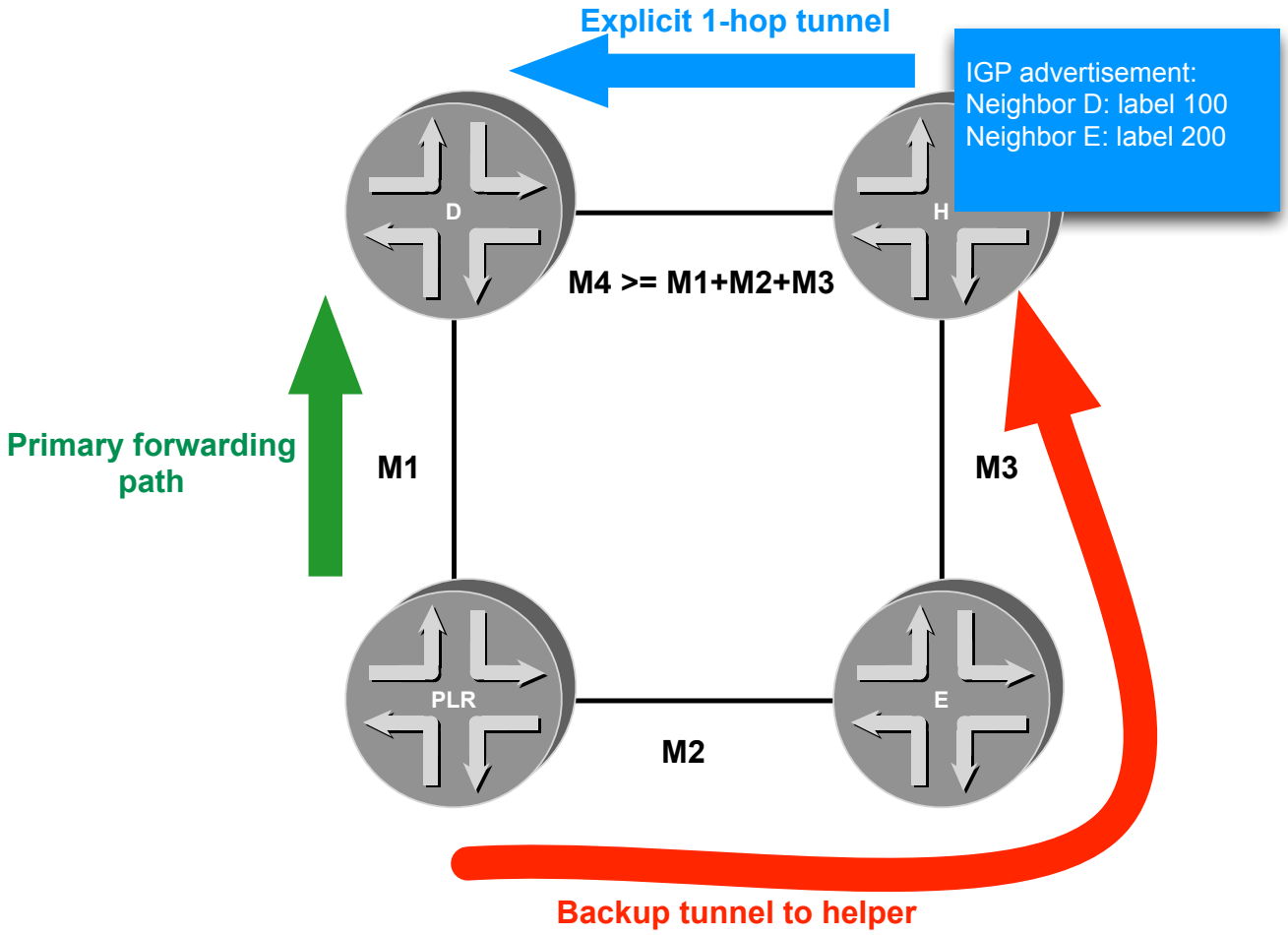


USE CASE #1
INCREASE (R-)LFA COVERAGE

Pathologic Topologies

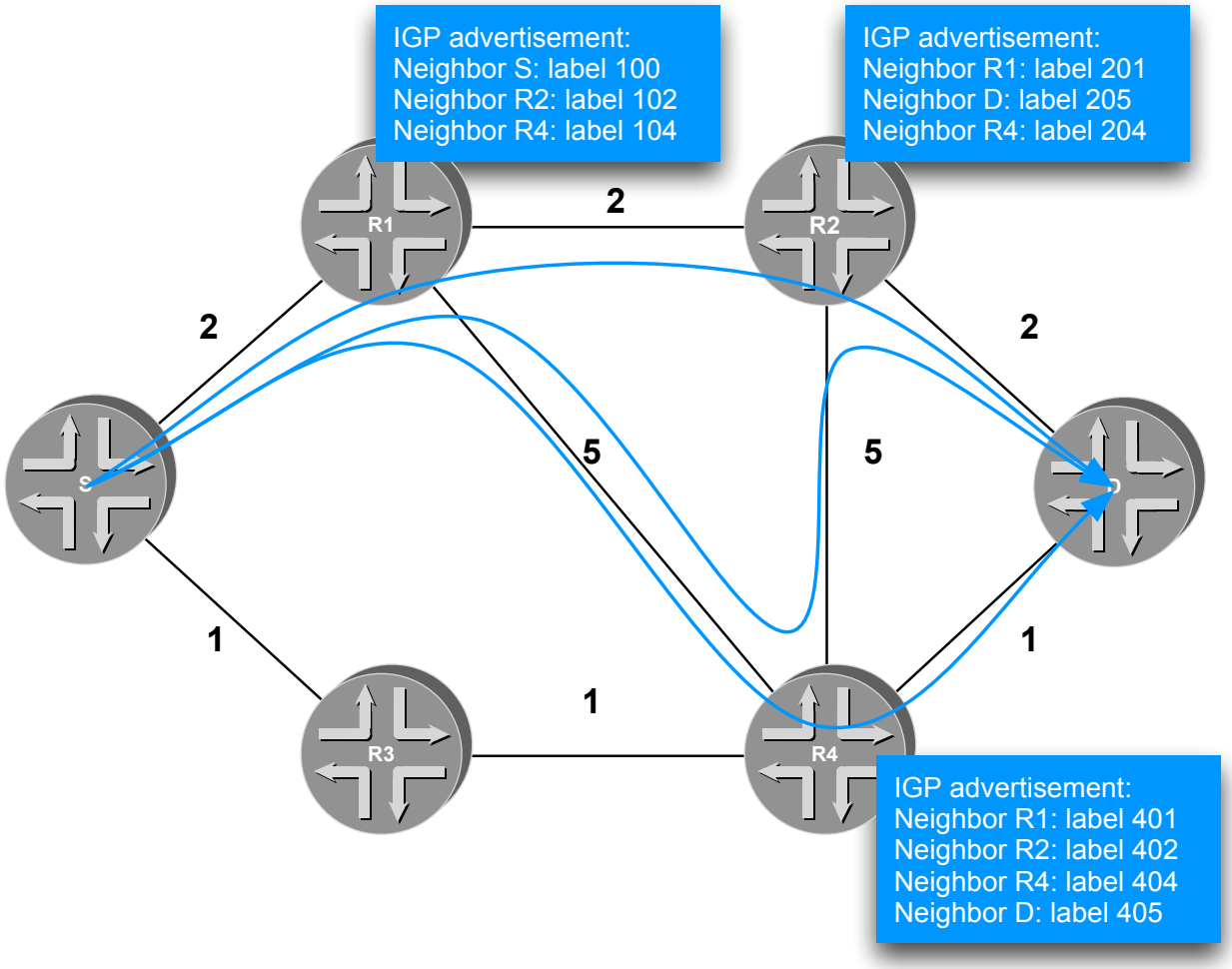


Add one-hop strict forwarding labels (stack ‘em)



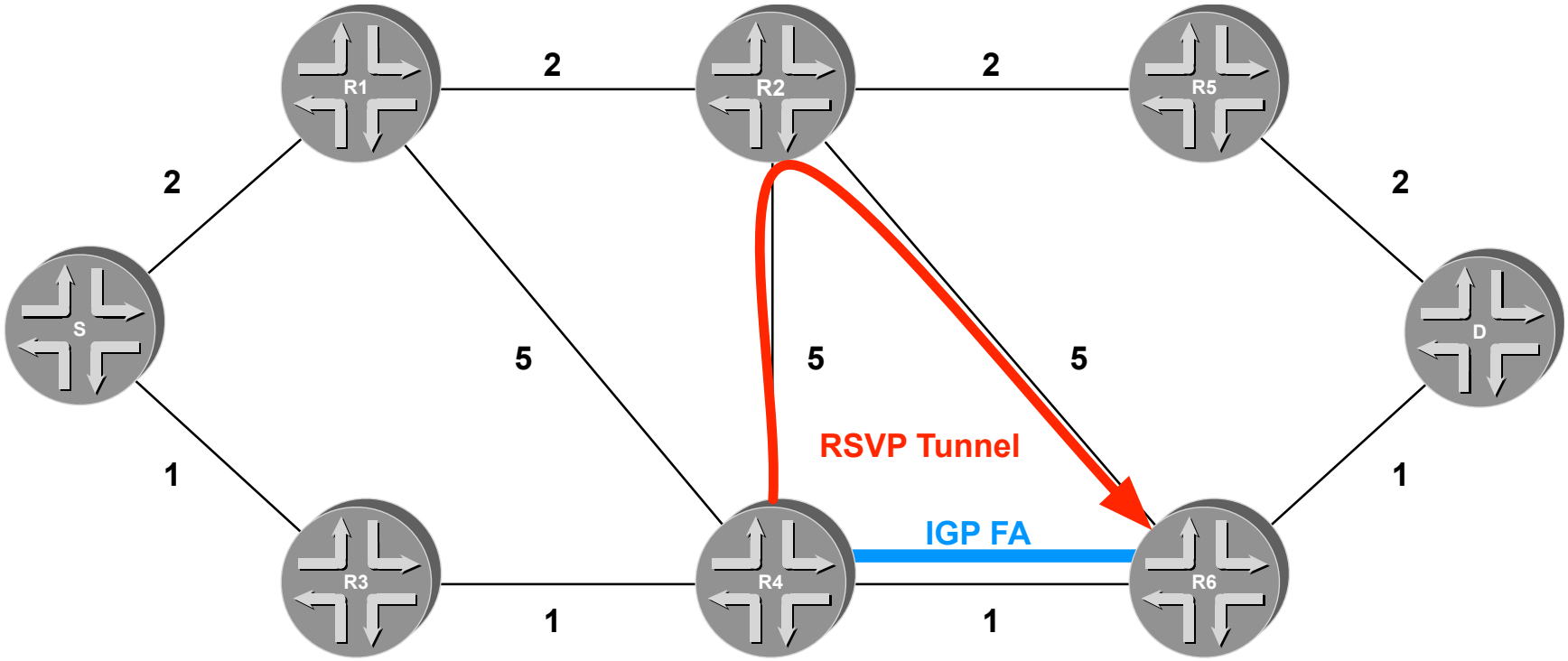
USE CASE #2
TE BY LABEL-STACKING

TE by label stacking per-neighbor labels

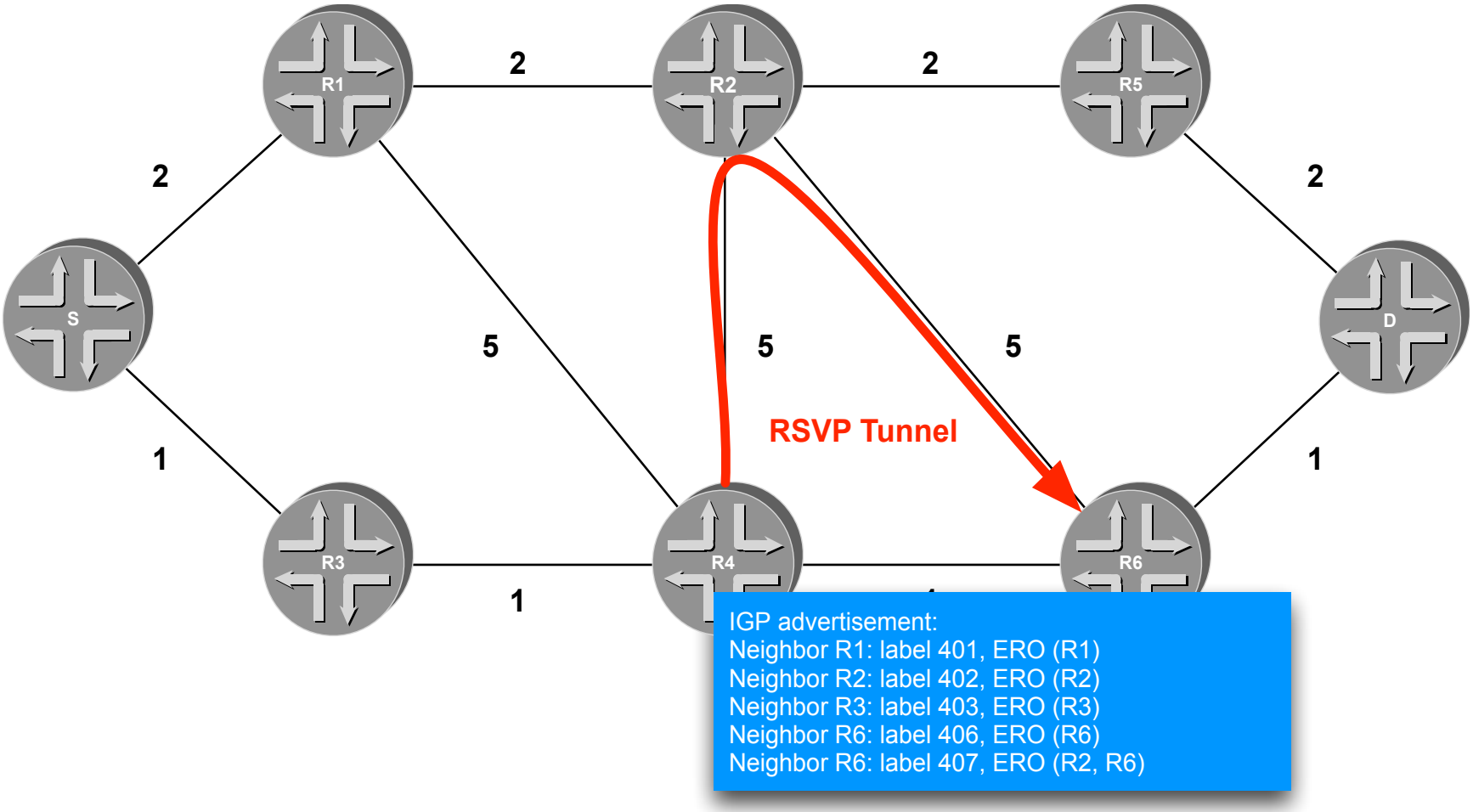


USE CASE #3
ADVERTISING TE LSPS

Advertise RSVP LSPs as Forwarding Adjacency
Issue: LSP path properties lost

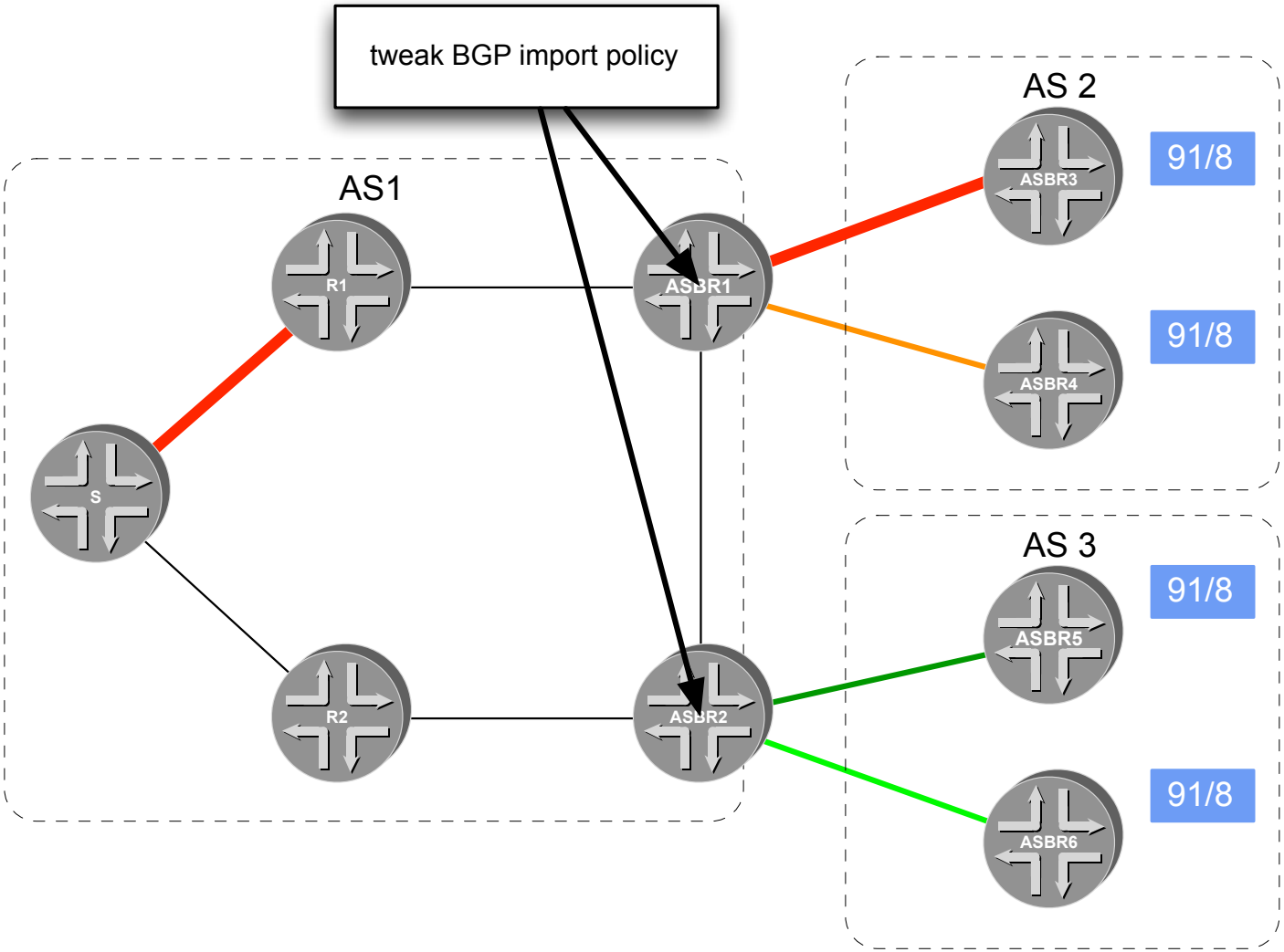


Advertise existing LSPs & EROs
-> Allows path property correlation

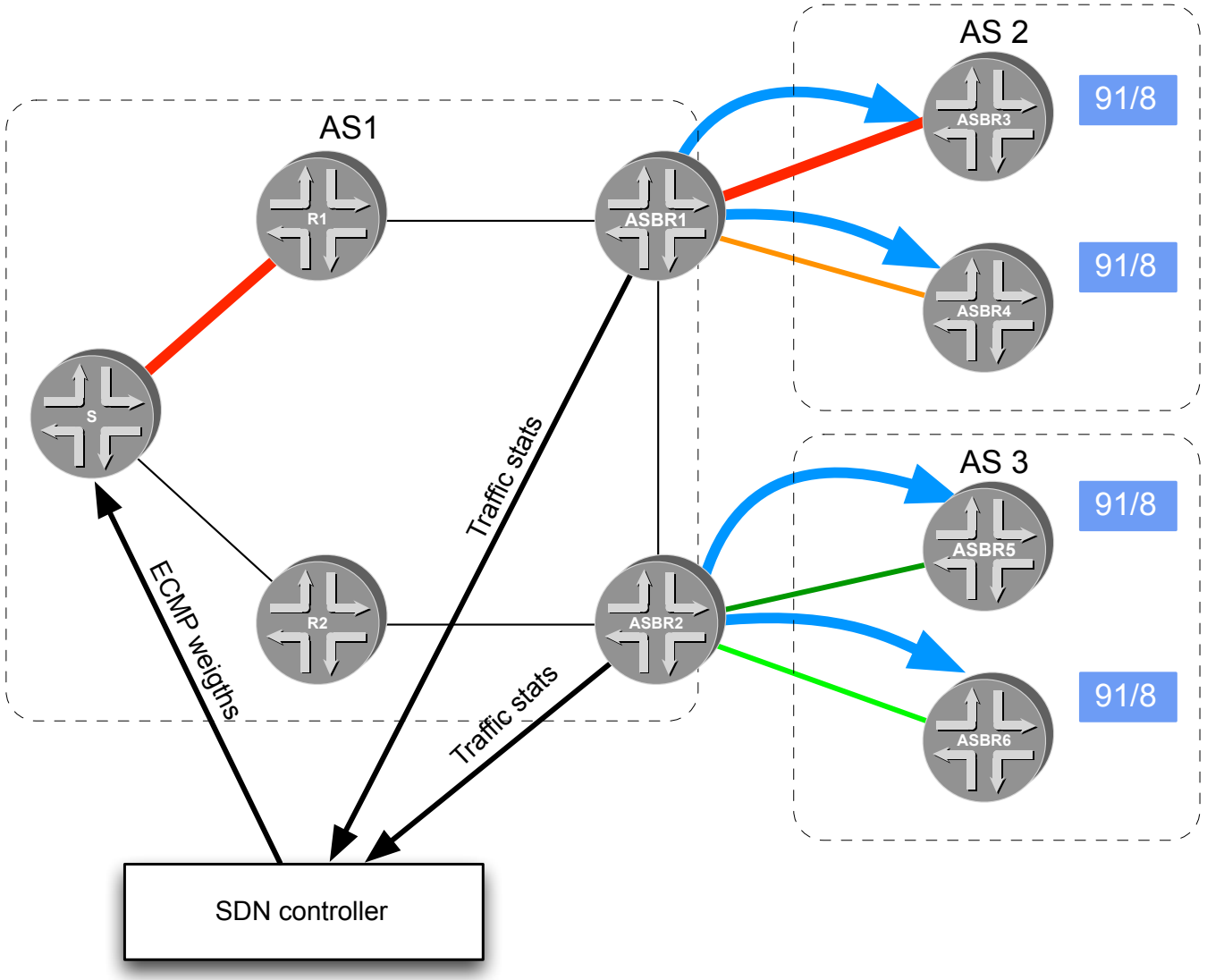


USE CASE #4
EGRESS WAN SDN CONTROL(ER)

Current TE framework only offers egress Node control.
-> No good Egress **Link** control



SDN ECMP weight controller and per-neighbor label



Next Steps

- Yesterday (20130313) submission isis-wg
  - draft-previdi-filsfils-isis-segment-routing-00
  - Core is advertising “segments” for source routing
  - IGP disseminates “segment”
  - Some similarities (IGP label)
  - Some discrepancies (Advertising existing labels, Global labels)
  - Working with authors to assess draft merge