

Entropy Labels for SR-MPLS

draft-kini-mpls-spring-entropy-label-00

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Why load-balancing is relevant in SR ?

Multi-path segments within a path

Links that are aggregates

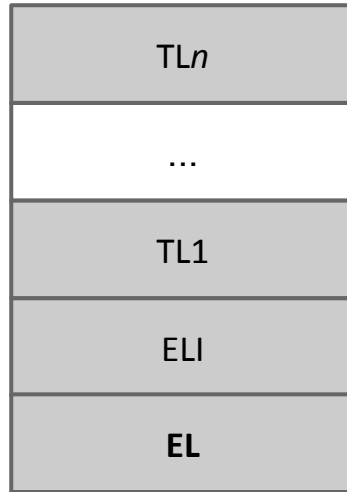
SR-MPLS and RFC6790

SR-MPLS uses hierarchy and makes deep label stacks more prevalent

Deeper label stacks have implications on the procedures in RFC6790

Applying EL to SR

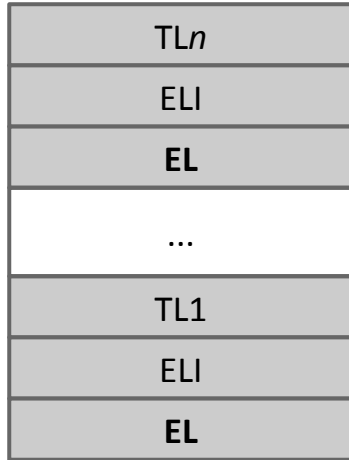
Option1 - EL at bottom of stack



EL is deep down the stack

Applying EL to SR

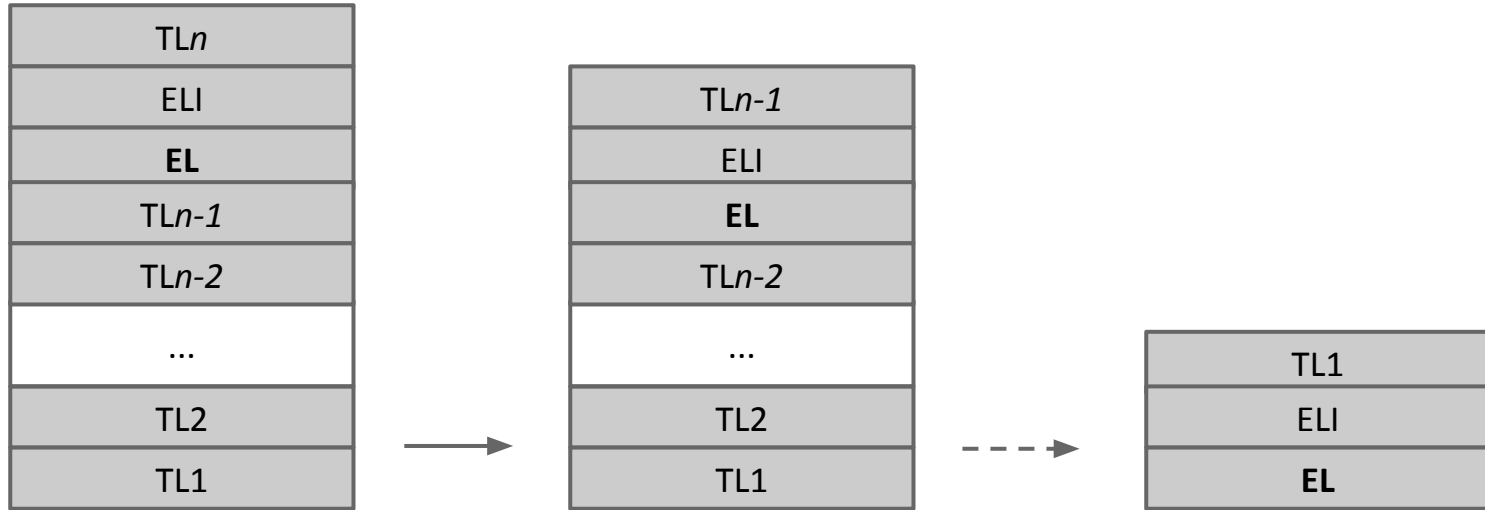
Option 2 - EL per tunnel



Label stack depth is **three** times the number of tunnel labels

Applying EL to SR

Option 3 - Re-usable EL below top of stack



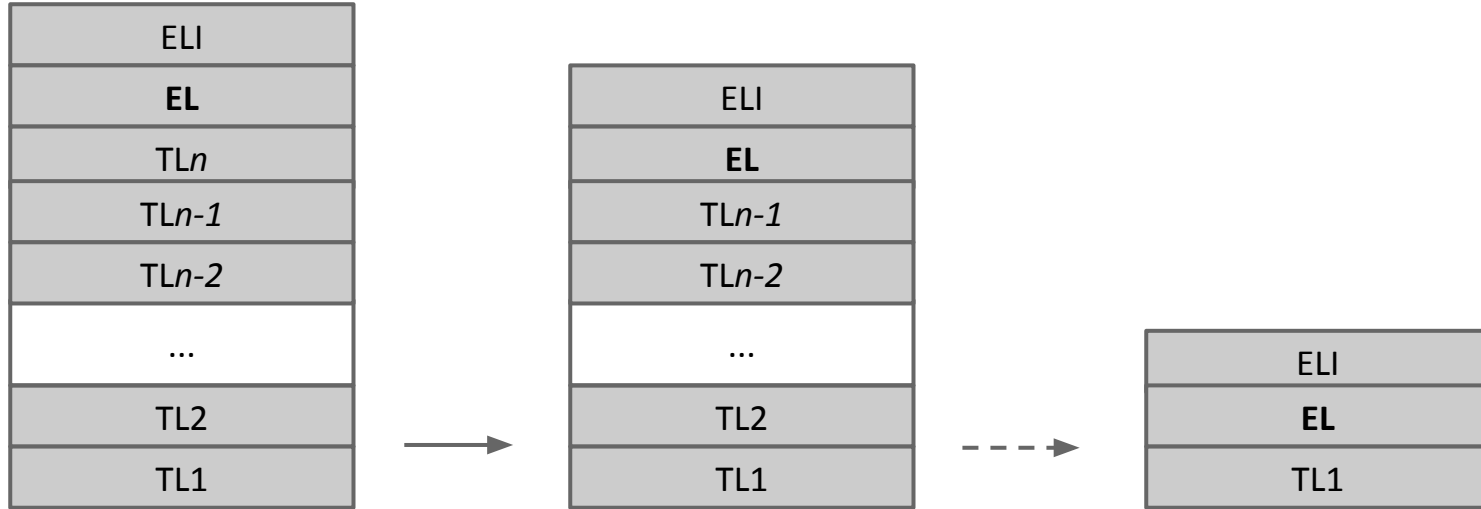
EL is **re-used after pop** by pushing below next label

Label operation changes, but end-to-end flow is consistently identified with single EL

EL is at a shallow depth along entire path.

Applying EL to SR

Option 3' - Re-usable EL at top of stack

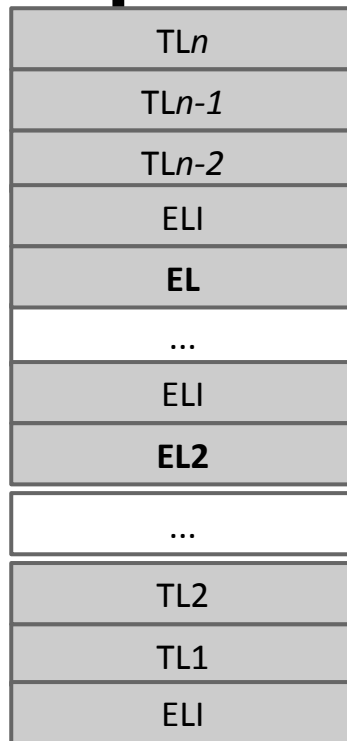


EL is pushed on top of label stack. EL is **re-used after pop** by pushing on top of next tunnel label. Label operation changes, but end-to-end flow is consistently identified with single EL. EL is at a shallow depth along entire path.

Applying EL to SR

Option 4 - EL at specific depths of stack

Ingress LSR determines depth to insert ELs for that LSP via label-depth reading capability advertised (e.g. IGP) by each LSR.



LSRs along the explicit-route until T_{n-2} are able to read label stack depth until **EL**

Related work

draft-ietf-mpls-forwarding - "MPLS forwarding compliance and Performance requirements"

draft-ravisingh-mpls-el-for-seamless-mpls - "Entropy labels for seamless MPLS"

Questions/comments