

MPLS RSVP-TE MBB Label Reuse

(draft-dai-mpls-rsvp-te-mbb-label-reuse)

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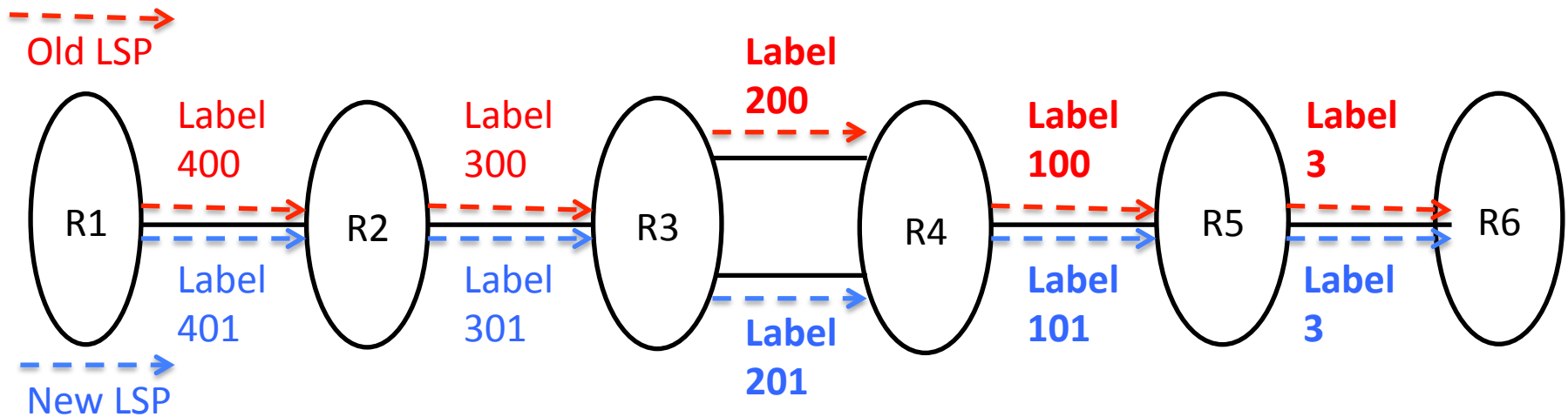
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Motivations for improvement

- **Current MBB practice:**
 - New LSP is assigned new set of labels along the path.
 - New LFIB programmed on each LSR for new LSP
 - Applications at ingress of the LSP need to update route when switching from old LSP to new LSP
- **Disadvantages:**
 - LFIB update takes time, adds delay during new LSP setup
 - LFIB update may require end-to-end verification for LSP readiness, adds further delay and complexity after new LSP is established
 - Route update at ingress of LSP notifies applications to switch to new LSP, can potentially create disruptions

MBB partial path overlap



← No label reuse even with overlapping paths →

← Direction of label assignment →

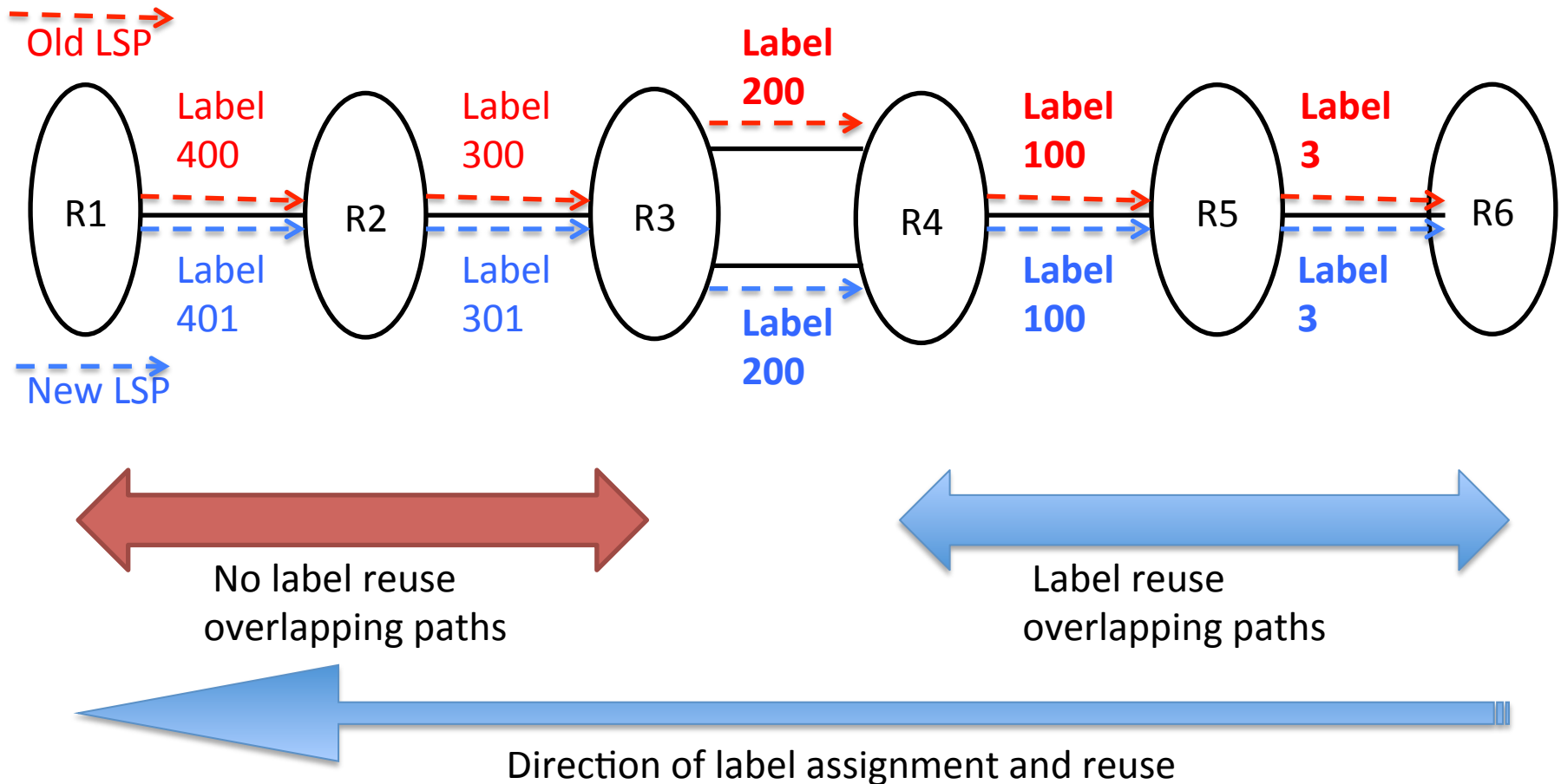
Proposed change in behavior

- **New behavior:**
 - LSRs of New LSP can reuse label if they are part of the segment which overlaps completely with old LSP to egress
- **Benefits:**
 - No new LFIB programmed on transit or egress LSR when label is reused
 - No need for LSP data path verification or route update when labels are reused end-to-end

Algorithm of label reuse

- A LSR stops label reuse when either received label or next hop is different from old LSP, Egress router of the new LSP starts Label reuse
 - Egress router always reuses label (no received label or next hop)
 - Transit router reuses label when both received label and next hop are same as old LSP
 - Ingress router avoids route update or data path verification when both received label and next hop are same as old LSP (no assigned label at ingress, label reuse is equivalent to route reuse)

MBB partial path overlap



Scope of label reuse

- This proposal focuses on primary path of P2P (point-to-point) LSP only
- Label reuse for any other types of LSPs is out of scope for this proposal and is left for future study

Next step

- Seeking feedbacks

Acknowledgement

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