

# **Loop Avoidance for BGP Best External**

## **draft-xu-idr-best-external-loop-avoidance-00**

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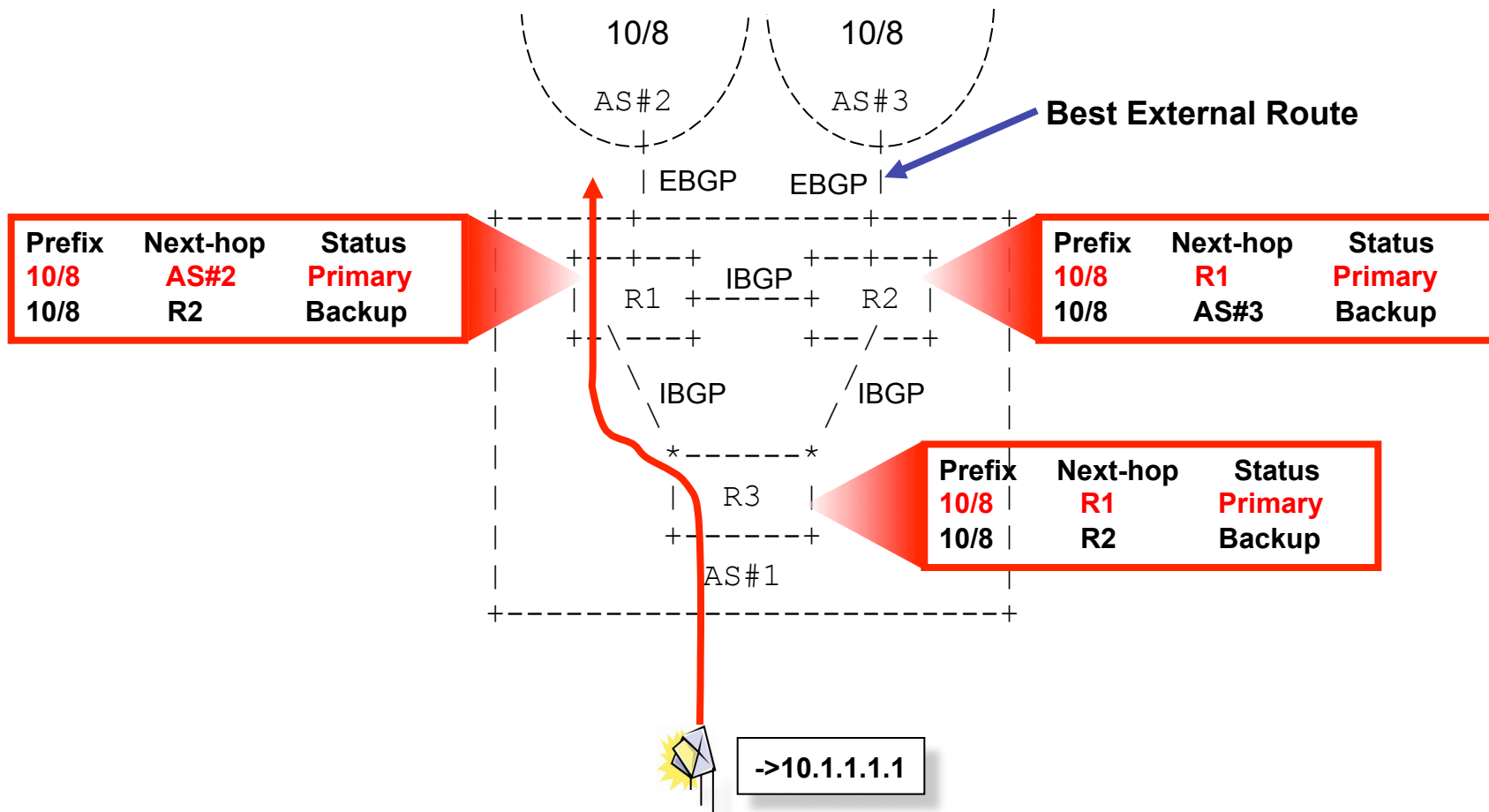
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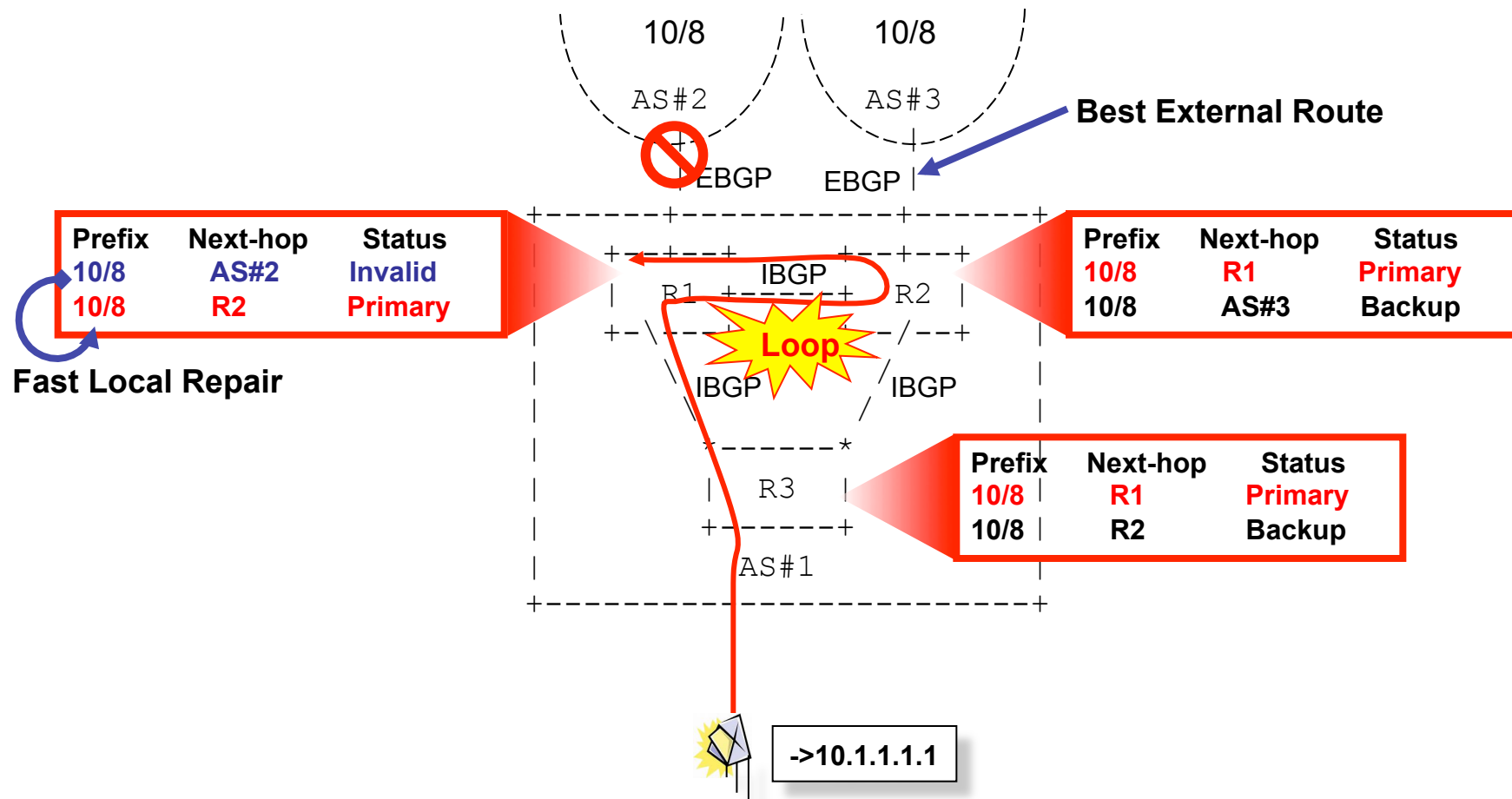
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# Problem Statement



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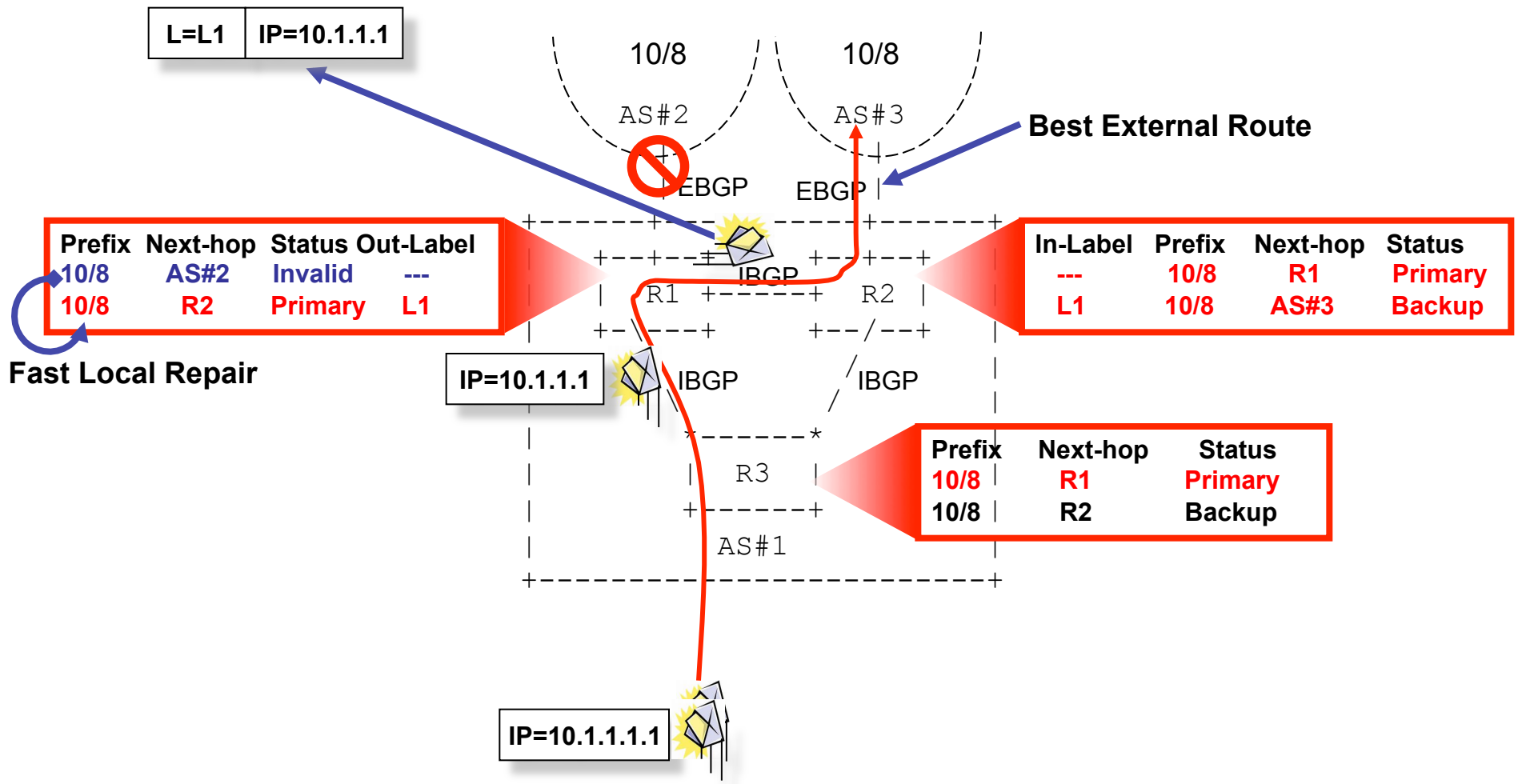


# Solution Space

- By using IGP within AS#1 for fast flooding of AS#2's ASBR next-hop down event (**Disabling BGP next-hop-self**), together with the **PIC (Prefix Independent Convergence) core** technology, the transient loop can be almost eliminated.
- Concerns with the above approach:
  - Is PIC a default capability for all deployed BGP routers?
  - BGP next-hop-self is desired by some carriers in some cases.
  - BGP next-hop-self **MUST** be enabled in BGP/MPLS VPN [RFC4364] and Softwire Mesh [RFC5565] cases.
- Hence, we need to find out an alternative to the above solution for transient loop.

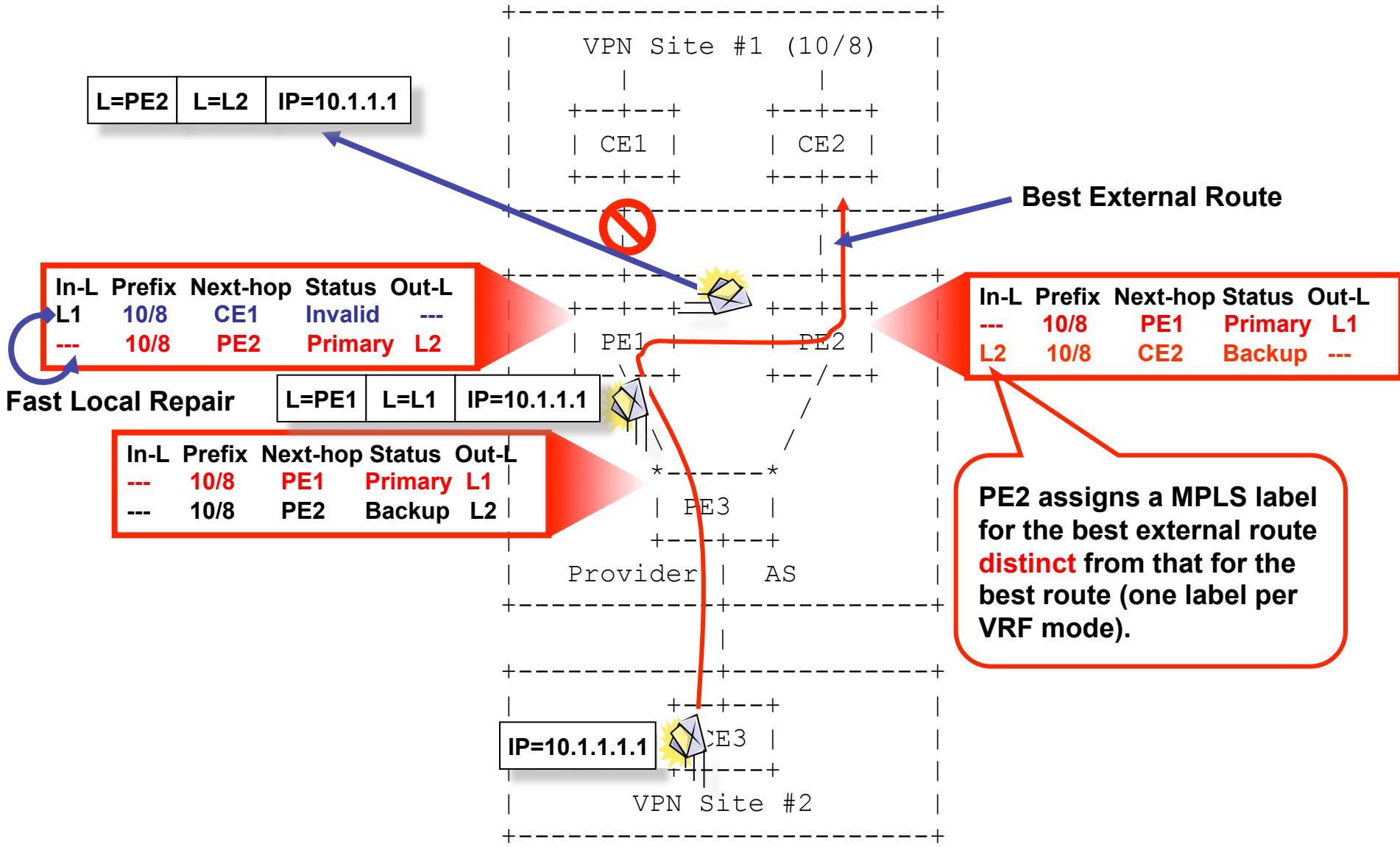
# Proposed Solution

- For normal BGP or Softwire Mesh cases, the best external route SHOULD be processed according to the approaches defined in Carrying Label Information in BGP-4 [RFC3107].



# Proposed Solution (con't)

- For BGP/MPLS VPN case where one label per VRF mode is used for assigning labels for best routes, the best external route SHOULD be assigned with a unique label distinct from the label for the associated VRF.
  - In either one label per attachment circuit mode or one label per best external route mode.





# Next Steps

- Solicit more comments from the WG.
- Ask for WG adoption.