Connecting SPRING Islands over IP Networks

draft-xu-spring-islands-connection-over-ip-00

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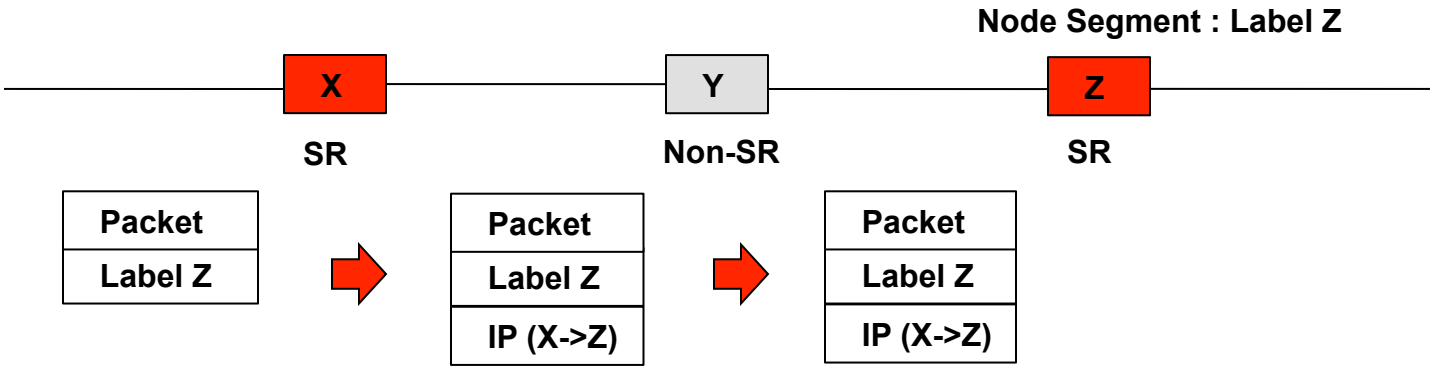
Motivation

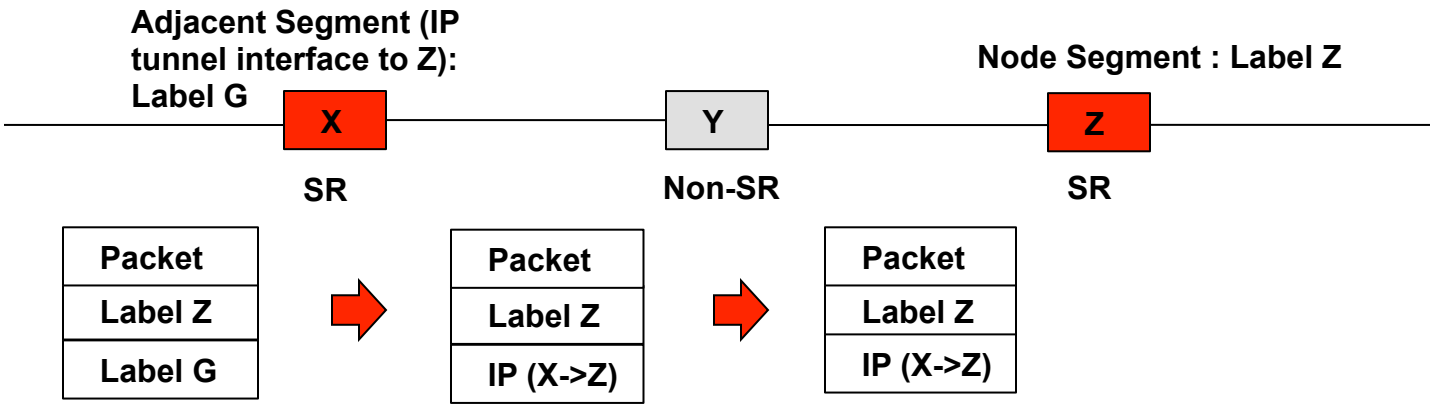
- **The current SR architecture requires an end-to-end MPLS Label Switched Path (LSP) between any two SR-enabled routers (e.g., any two adjacent hops of a given explicit path).**
- **In order to enable SR to be deployable in the case where there are non-SR routers along the path between SR-enabled routers, it's desirable to connect two SR-enabled routers which are specified as adjacent hops of a given explicit path across IP networks.**

Connecting SPRING over IP (option 1)



- **Upon receiving a MPLS packet with the top label of Z, if the IGP next-hop router Y is a non-SR router, SR router X would forward the MPLS packet to Z through an IP-based tunnel (e.g., GRE).**
  - **If label Z is at the bottom of the label stack, it MUST NOT be a PHP label.**

Connecting SPRING over IP (option 2)



- SR router X advertise the IP tunnel interface to Z as an adjacent segment (with label G). Upon receiving a MPLS packet with top label of G, X would forward the MPLS packet (after popping Label G) via the corresponding IP tunnel interface.
  - If label Z is at the bottom of the label stack, it MUST NOT be a PHP label.

Next Steps

- **Comments?**