Secure EVPN MAC Signaling

draft-thubert-bess-secure-evpn-mac-signaling

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Remote

IPv6 IS Different

- DHCP is observable and stateful

=> DHCP addresses have a deterministic beginning and a lifetime

=> Corporate Network admins trust that state

=> A solid foundation for EVPN

The Hassle is the "SL" in SLAAC

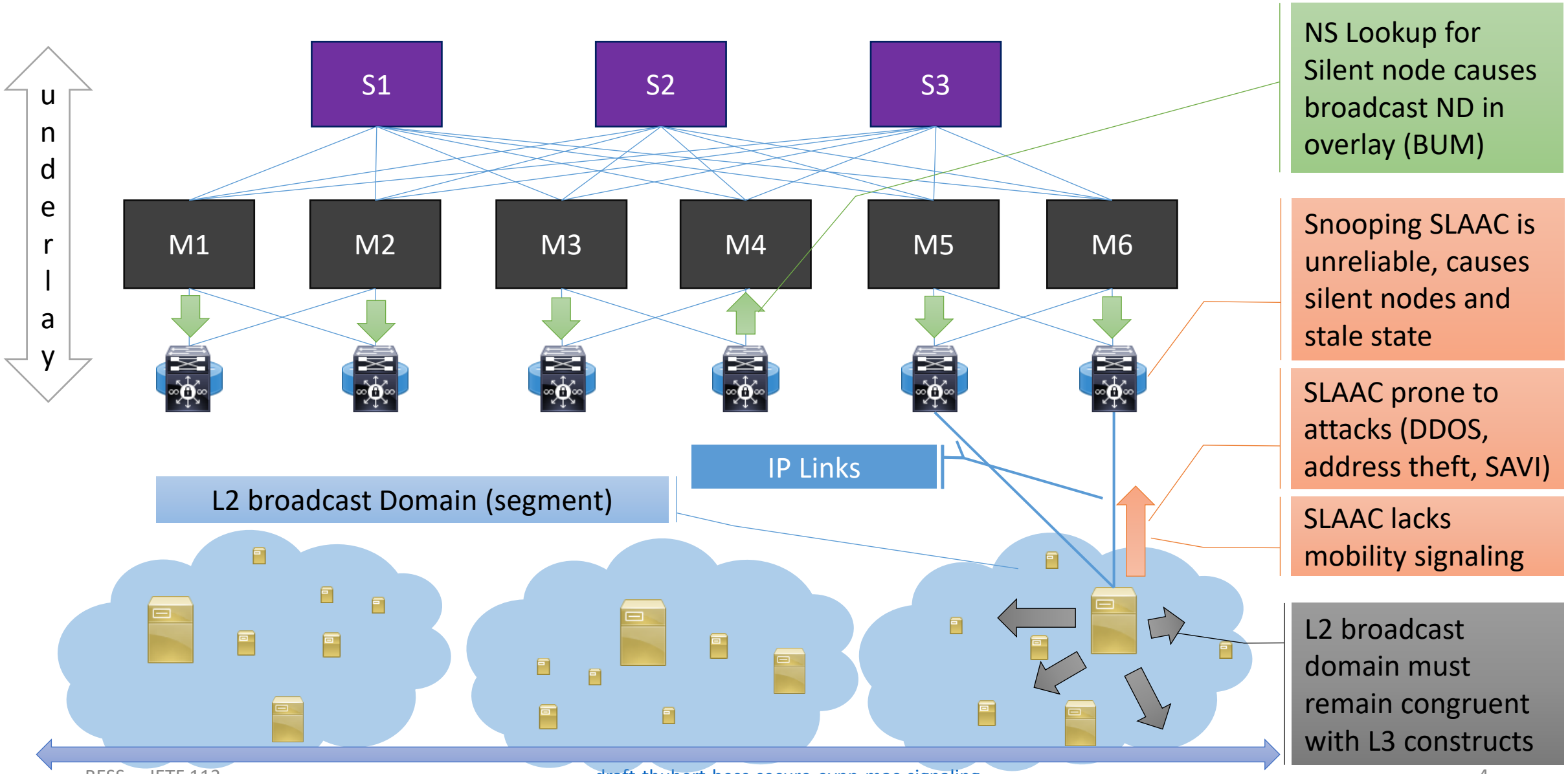
- **SLAAC stands for IPv6 Stateless Address Autoconfiguration**

=> SLAAC address lifecycle is insecure and not deterministically observable

=> There is no protocol to sync SLAAC state with the network (just snooping)

=> Non-deterministic state in EVPN leads to stale state and BUM

Issues with IPv6 ND SLAAC (Non-Deterministic snooping)



Till we made IPv6 ND stateful

- **RFC 8505 / RFC 8928 Stateful Address Autoconfiguration**

=> Synchronizes addressing state with network

=> Carries address control semantics (lifetime negotiation, redistribution…)

=> Secures address ownership, enables Source Address Validation

Secure EVPN MAC signaling

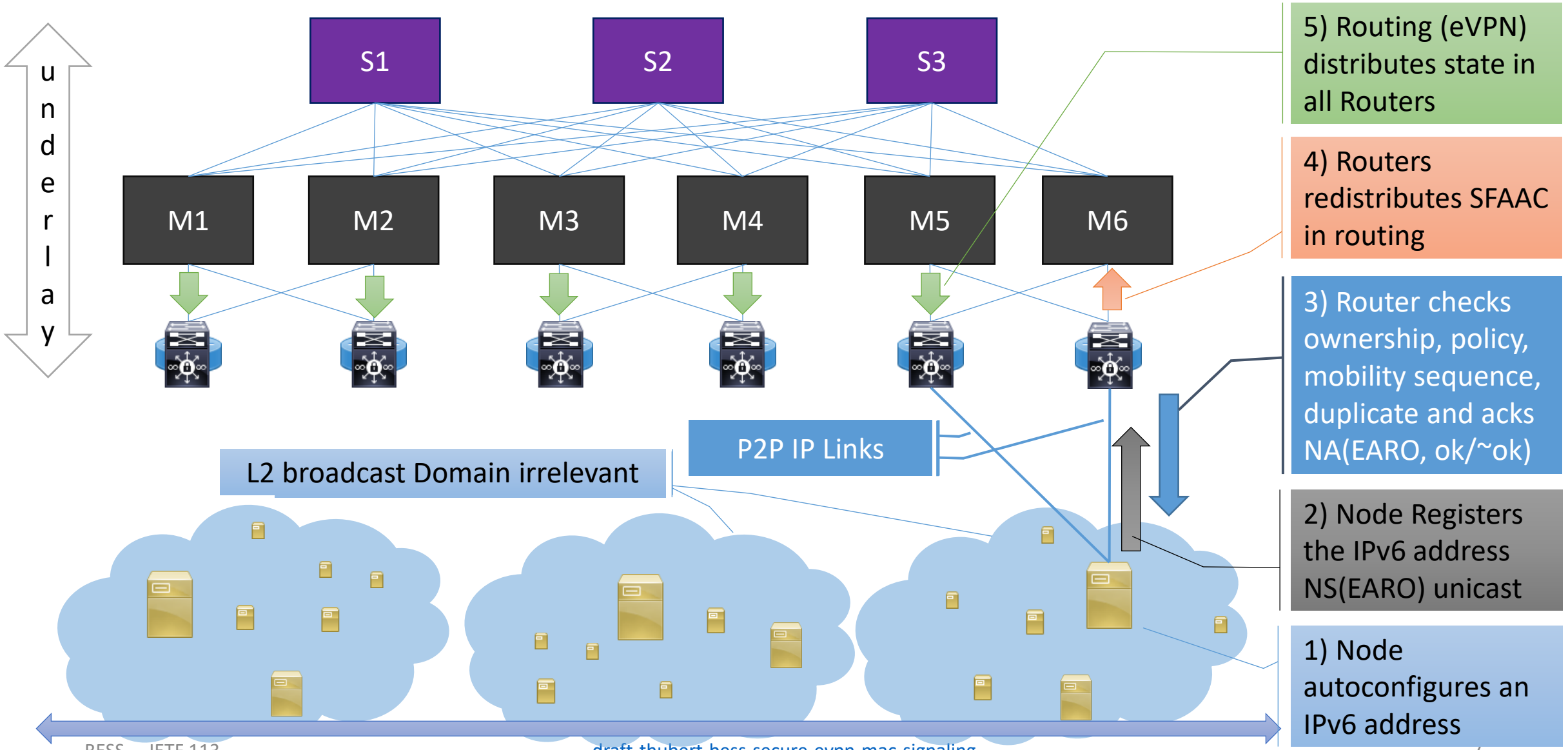
- **Redistributing RFC 8505 / RFC 8928 in EVPN**

⇒ Sorts duplication vs. anycast; can support multicast, too

⇒ Handles mobility with sequencing

⇒ protects address ownership

Stateful IPv6 ND: Creates a deterministic state for routing



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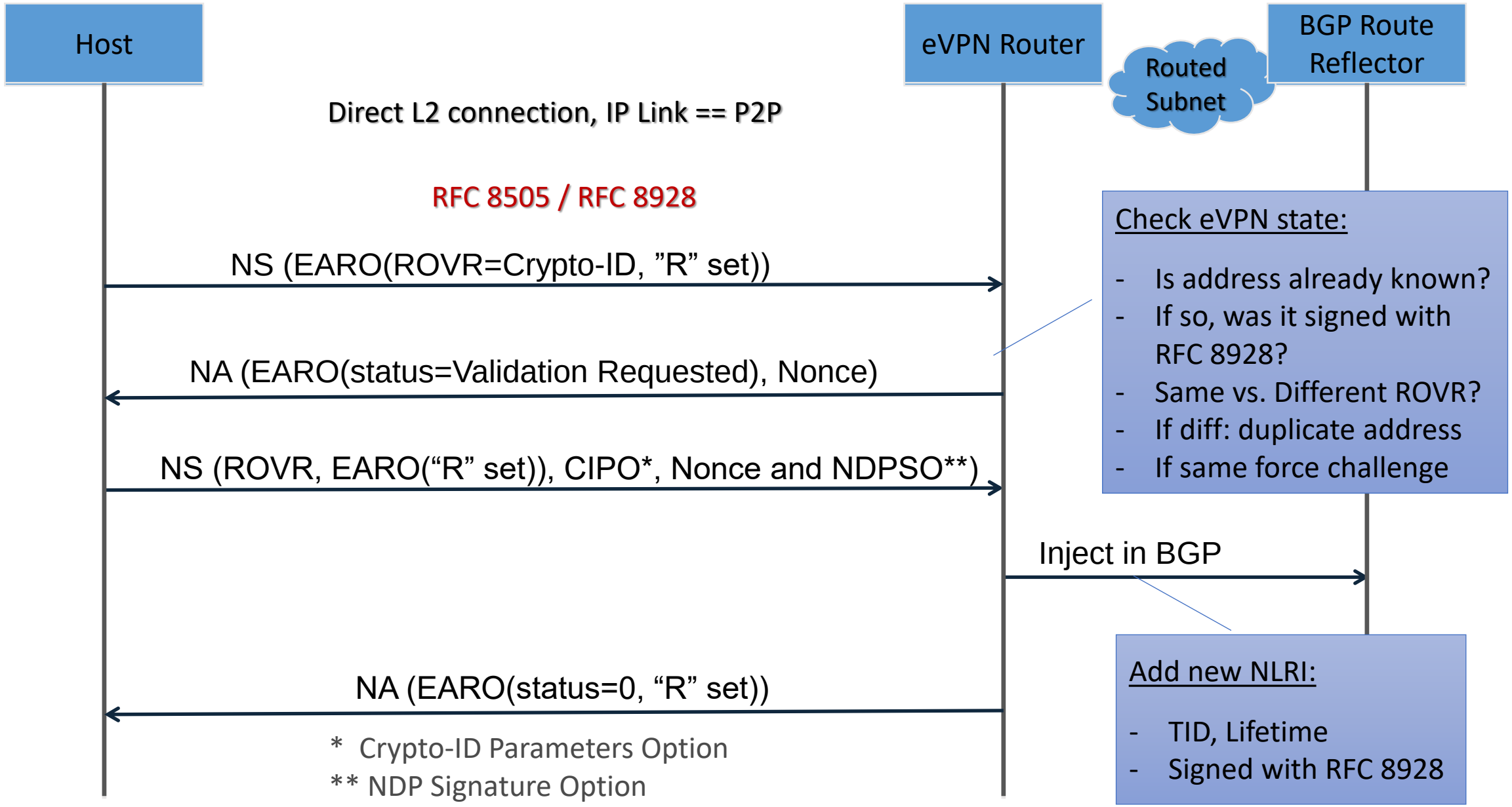
RFC 8928 flow



Stable

⇒ Inherits from RFC 8929 (ND proxy), RFC 9010 (RPL), and RIFT

⇒ Published 03, with Jorge's comments using ARP/ND Extended Community

⇒ Calling for adoption