

# Methods for Prevention, Detection and Mitigation of BGP Route Leaks

**ietf-idr-route-leak-detection-mitigation-06**

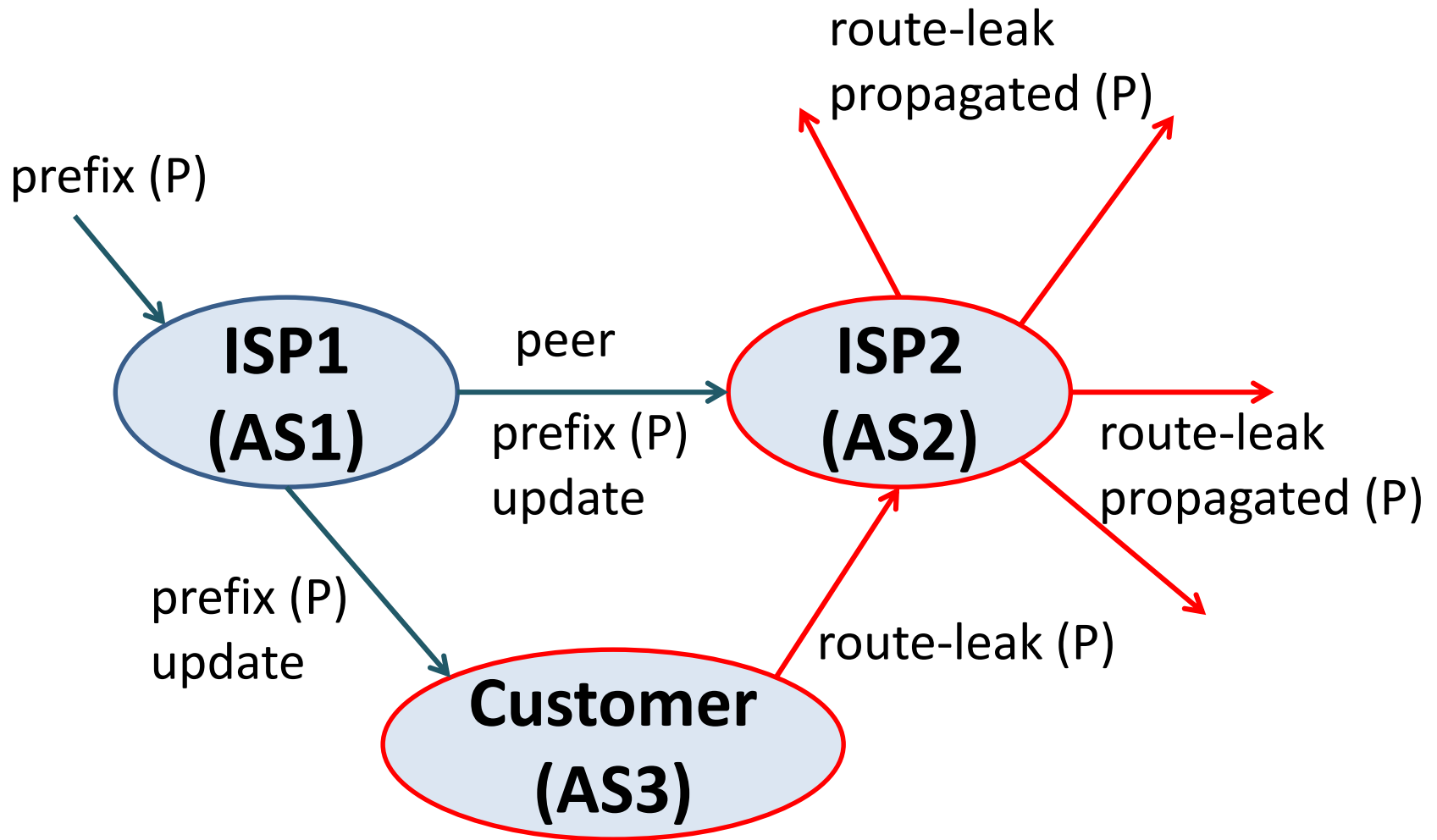
(Route leak definition: RFC 7908)

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# Route Leak: The Tale of Two Culprits



- Intra-AS and Inter-AS solutions are necessary.

# Building Blocks

ietf-idr-route-leak-detection-mitigation-06

Secure RLP fields with BGPsec

Intra-AS route leak prevention (iBGP messaging)

- COMMUNITY, or
- Attribute

Inter-AS route leak detection/mitigation

- Optional transitive attribute (RLP fields)

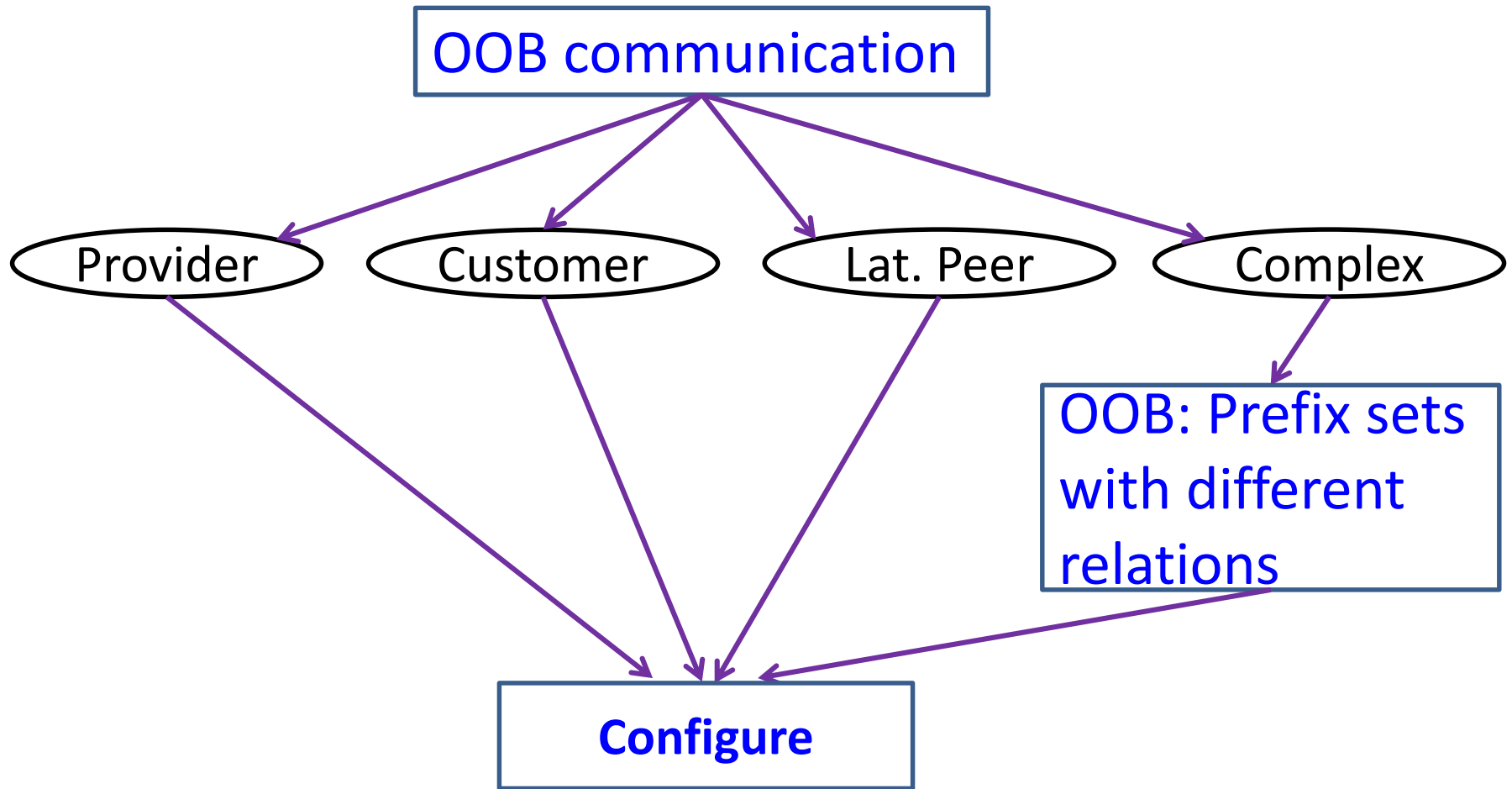
Configure peering relation for each peer (per prefix)

OOB communication between operators:  
Peering relation, ASN, interface IP

OOB = Out of Band

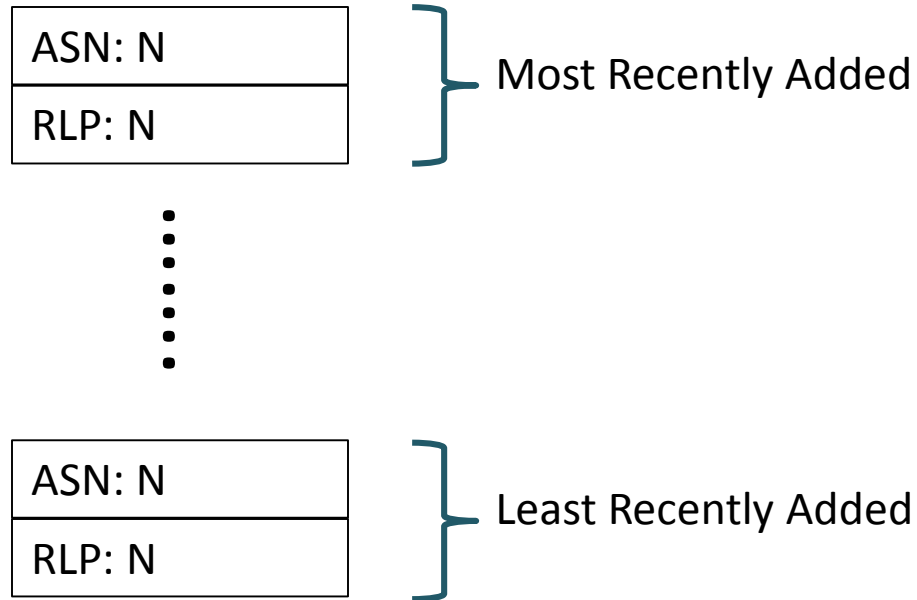
RLP = Route Leak Protection fields  
(in Optional transitive attribute)

# Configuration Process Flow

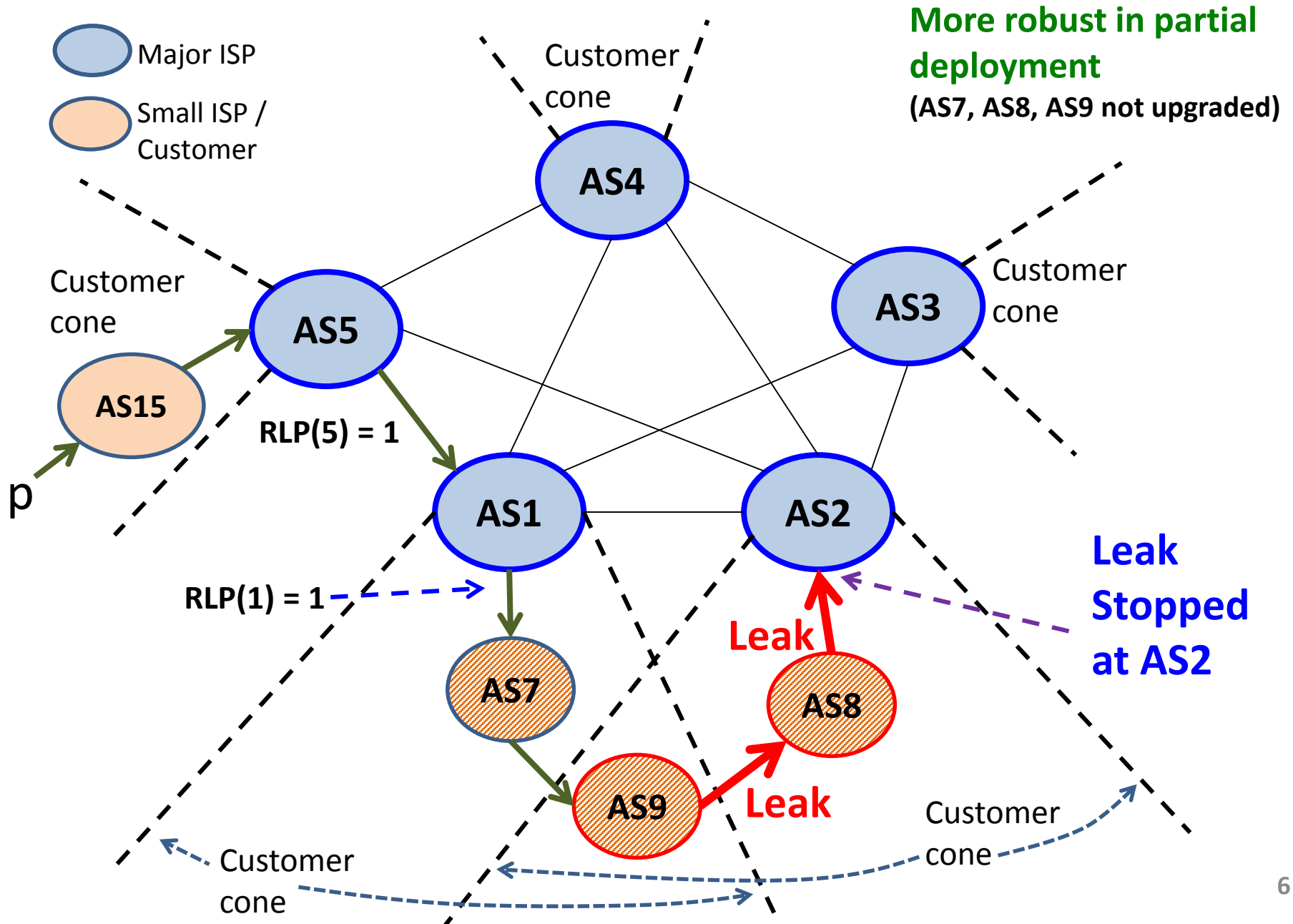


# Inter-AS Solution: RLP Attribute

## Optional Transitive Attribute



# No Single Point of Failure & Large ISPs' Ring of Security

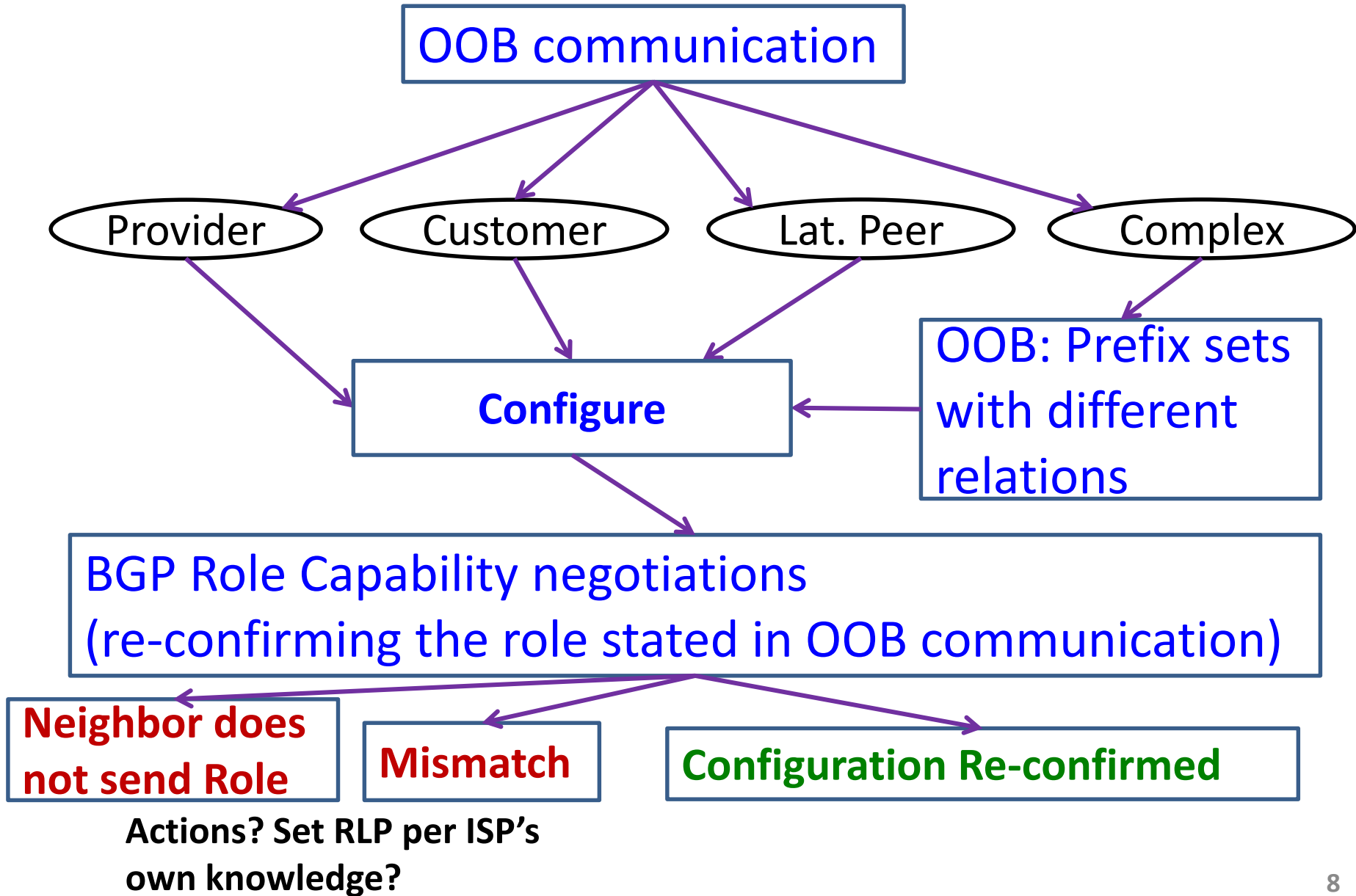


# Building Blocks (with BGP Role negotiation)

	Secure RLP fields with BGPsec
Intra-AS route leak prevention (iBGP messaging) <ul style="list-style-type: none"><li>• COMMUNITY, or</li><li>• Attribute</li></ul>	Inter-AS route leak detection/mitigation <ul style="list-style-type: none"><li>• Optional transitive attribute</li></ul>
<b>Configure peering relation for each peer (per prefix)</b>	
BGP OPEN / BGP Role Capability negotiations – re-confirming the role stated in OOB communication	
OOB communication between operators: Peering relation, ASN, interface IP	

ymbk-idr-bgp-open-policy

# Configuration Process Flow (with BGP Role negotiation)





# Merging of the Efforts

- **Option A:** Two drafts that complement each other
  - Separate draft exclusively dealing with **BGP Open Policy / Role capability**
    - Has other applications (e.g. draft-ymbk-idr-isp-border)
    - Keyur and Sriram have offered good feedback and very happy to continue working with the authors
  - **ietf-idr-route-leak-detection-mitigation** describes the other building blocks (intra-AS, inter-AS)
    - Captures nicely the distilled/refined ideas that reflect five years of WG efforts in SIDR, GROW, and IDR
- **Option B:** Merge **BGP Open Policy / Role capability** into **ietf-idr-route-leak-detection-mitigation** (sort out authorship issues amicably)