



Operational Implications of IPv6 Packets with Extension Headers

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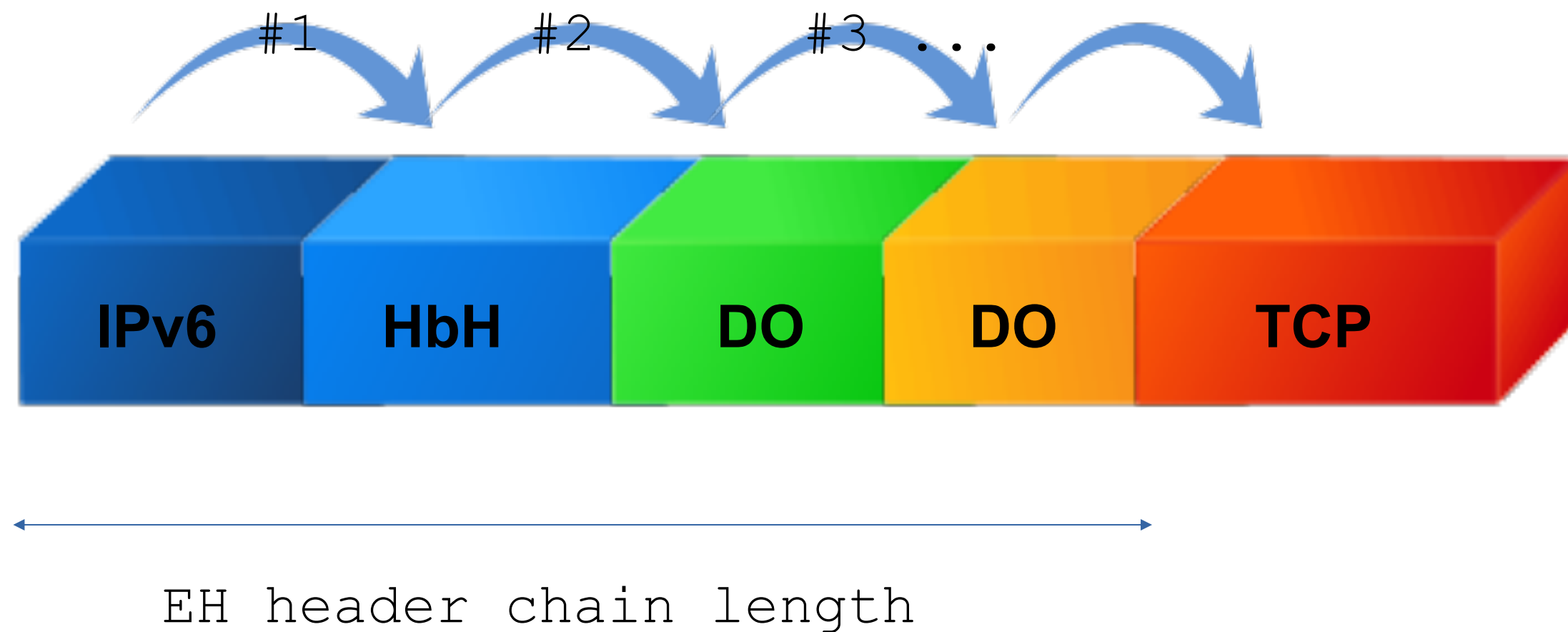
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Requirement to process layer-4 info

- **Enforcing infrastructure ACLs**
- **DDoS Management and Customer Requests for Filtering**
- **ECMP and Hash-based Load-Sharing**
- **Firewalling**
- **IDP/IPS**

IPv6 EH-processing constraints

Number of IPv6 extension headers



Implications

- **Obtaining layer-4 information may result in negative performance implications**
- **When unable to obtain layer-4 information, middle-boxes may drop packets**
 - This introduces fragility/unreliability
- **IPv6 EHs usage becomes constrained to “limited domains”**

References

- **RFC 7872: “Observations on the Dropping of Packets with IPv6 Extension Headers in the Real World”**
- **RFC 9098: “Operational Implications of IPv6 Packets with Extension Headers”**

Thanks!



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