6lowpan Forwarding Fragments Scoping

samitac.ietf@gmail.com
Gabriel.Montenegro@microsoft.com
Collection of discussion points at WG and 6lo-chairs
Initiated by Pascal Thubert, Carles Gomez Montenegro

IETF99, 2017
What RFC 4944 has today

• RFC 4944 – section 5.3 defines fragment header formats
  • Primarily designed for mesh-under (under L3) forwarding in 802.15.4 networks
  • Datagram size and datagram tags are same for all link fragments of a payload
  • Datagram size indicates buffer space required to hold the payload at the receiver
  • RFC 4944 does not prescribe any particular mesh-under protocol

• Existing Fragmentation solution in RFC 4944 does not work well for route-over configuration such as RPL (L3 multihop routing).
Scope for Fragment forwarding in 6lo

• **Mesh-under**: Do we need a re-evaluation of 6lowpan fragment forwarding for mesh-under configuration? For links other than 802.15.4?

• **Route-over**: Does the WG want to device a 6lowpan fragmentation solution for route-over?
Scope for Fragment forwarding in 6lo
Additional discussion points

• Do we need a concrete evaluation of 6lowpan fragment forwarding for mesh-under configuration?

• Should we investigate possibilities of interfacing of 6lowpan layer with upper layers for effective fragmentation and reassembly operation or fragmentation free communication? [The solution is out of scope for the initial effort]

• It is assumed that the fragmentation solution will work over different 6lo link layers and PDU sizes – Agree?

• Will the WG be interested in working on compression technique for 6lo fragments?
Conclusion

• Should 6lo form a fragmentation design team?