6lowpan Forwarding Fragments Scoping

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Collection of discussion points at WG and 6lo-chairs

Initiated by Pascal Thubert, Carles Gomez Montenegro

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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 ?