Transmission of IPv6 packets over ITU-T G.9959 Networks

draft-brandt-6man-lowpanz-02

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Sigma Designs

Draft Status

- Individual draft
  - In a mature state since June

  - Presented to 6MAN which points to 6lo … $\Rightarrow$ just waiting for 6lo adoption

  - Draft **not** renamed from
    draft-brandt-6man-lowpanz-02 to
    draft-brandt-6lo-lowpanz-00
    (6lo adoption will change the name anyway)
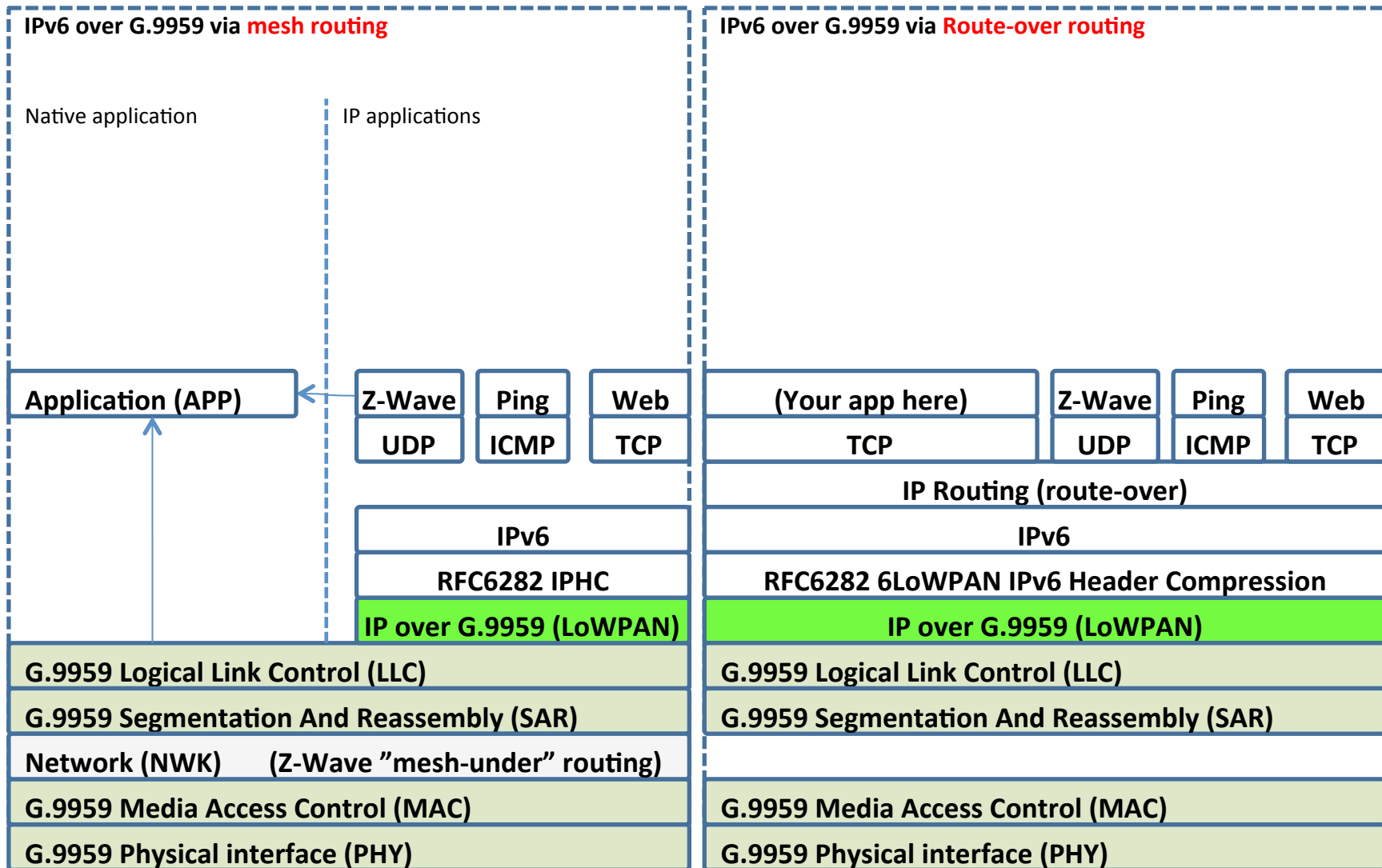
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Short overview

- Yet another IP-over-foo in the 6LoWPAN family

- IP packets may be forwarded via mesh routing or via route-over routing.
  6LoWPAN is agnostic to the forwarding mode

- ITU-T G.9959 is the PHY & MAC of Z-Wave™
  Next revision adds SAR and LLC adaptation layers.
  Changes already approved in the ITU-T.

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Just another 6LoWPAN?

- Reused
  - 98%

- Not reused
  - Mesh routing
  - Fragmentation
    (already provided by G.9959)

- Changed
  - 8bit NodeID instead of 16bit Short Address

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IPv6 over G.9959 – the stack(s)

IPv6 over G.9959 via mesh routing

Native application   IP applications

Application (APP)	←	Z-Wave	Ping	Web
		UDP	ICMP	TCP

IPv6
RFC6282 IPHC
IP over G.9959 (LoWPAN)

G.9959 Logical Link Control (LLC)
G.9959 Segmentation And Reassembly (SAR)
Network (NWK)   **(Z-Wave "mesh-under" routing)**
G.9959 Media Access Control (MAC)
G.9959 Physical interface (PHY)

IPv6 over G.9959 via Route-over routing

(Your app here)	Z-Wave	Ping	Web
TCP	UDP	ICMP	TCP

IP Routing (route-over)
IPv6
RFC6282 6LoWPAN IPv6 Header Compression
IP over G.9959 (LoWPAN)

G.9959 Logical Link Control (LLC)
G.9959 Segmentation And Reassembly (SAR)
G.9959 Media Access Control (MAC)
G.9959 Physical interface (PHY)

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Going forward

- Adoption as WG document?

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