Deepspace IP
IETF-118 Side Meeting

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Administrativia

- Meeting under IETF Note Well

- Group Mailing list: deepspace@ietf.org

  - Subscribe at: https://www.ietf.org/mailman/listinfo/deepspace

- Group web site (using GitHub Pages):

  - https://deepspaceip.github.io/

  - Repo for slides, meeting notes, drafts, projects, …

  - If interested in contributing, send me a note.

- QUIC in space Slack sub-channel under quicdev.slack.com main channel (send me a note if you want to join)

- This meeting remote access: https://ietf.webex.com/meet/sidemeetingietf1
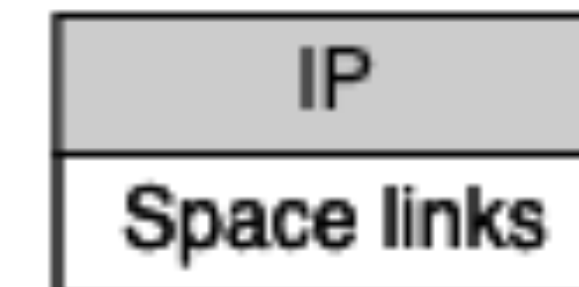
Agenda

- Tuesday Nov 7th, 18h00-18h30 (Prague Timezone), local room: Karlin 4

- Administrativia (note well, mailing list, GitHub, website), Marc Blanchet

- Recap of architecture, Marc Blanchet

- QUIC for deep space: Christian Huitema

- QUIC deep space analysis: Juan Fraire

- TAPS, careful-resume+bdp: Émile Stephan

- QUIC-FEC-Additional Addresses: François Michel, Maxime Piraud

- Thursday Nov 9th, 18h00-19h00 (Prague Timezone), local room: Karlin 4

- IP forwarding in deep space, implementation: Jean-Philippe Dionne

- DNS in mostly isolated networks: Marc Blanchet

- COAP in space: Carlos Gomez Montenegro

- recap of key issues discussed on the deepspace mailing list

  - IP addressing and late binding

  - Routing and contact plans

  - Transport

  - Applications and related protocols

- next steps (gap analysis/comparison?)
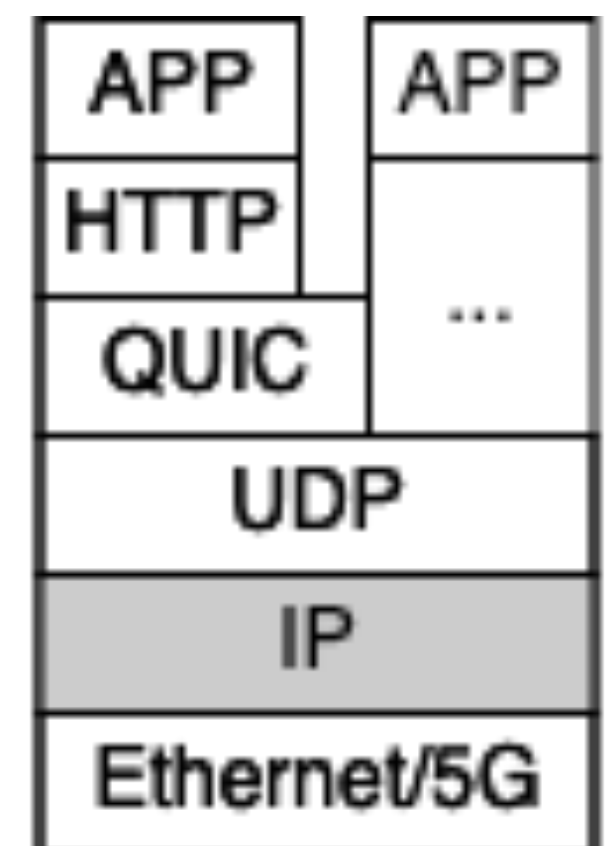
Proposed Architecture in One Slide

- Target: use the IP protocol stack end to end.

  - draft-many-deepspace-ip-assessment

- Key items:

  - IP forwarding: need to store packets when routes/links are down

  - IP routing: static, « simple » or TVR/Contact plans.

  - QUIC: need a profile (modify timers, cc algo, …) (draft-huitema-quic-in-space)

  - HTTP: no change, careful settings of some headers

  - Applications (and protocols): careful settings of timers

  - DNS: no change, BCP for proper deployment (draft-many-dnsop-dns-isolated-networks)

  - Network Management: RESTCONF/Yang

  - Security: QUIC, ACLs,…

APP	APP
HTTP	
QUIC	...
UDP	
IP	
Ethernet/5G	

Earth Internet

| IP |
| Space links |

Deep space

APP	APP
HTTP	
QUIC	...
UDP	
IP	
Ethernet/5G	
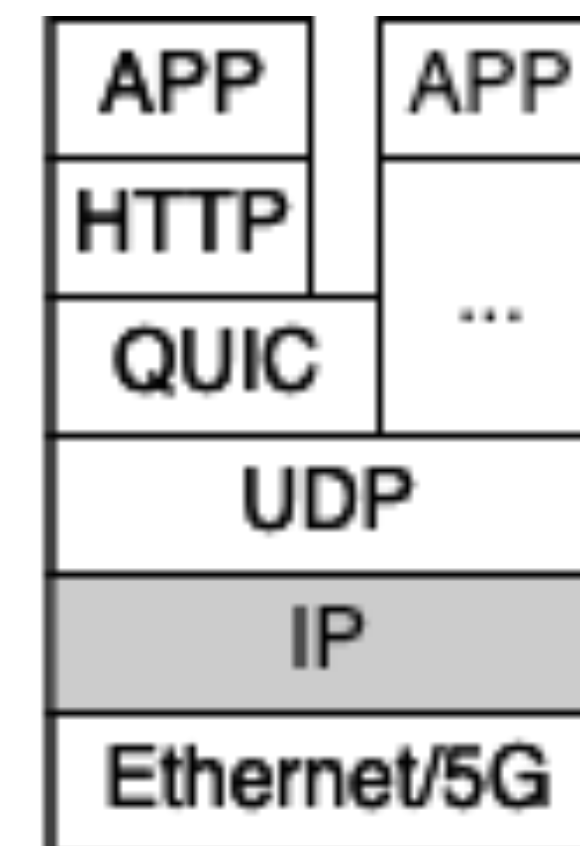
Celestial body surface/orbit