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Friedrich-Alexander-Universität
Technische Fakultät
Lehrstuhl Informatik 7

QUIC Proxies?

2nd QUIC and Satellite Open Stakeholder Meeting

Thursday 2nd December 2021 (online)

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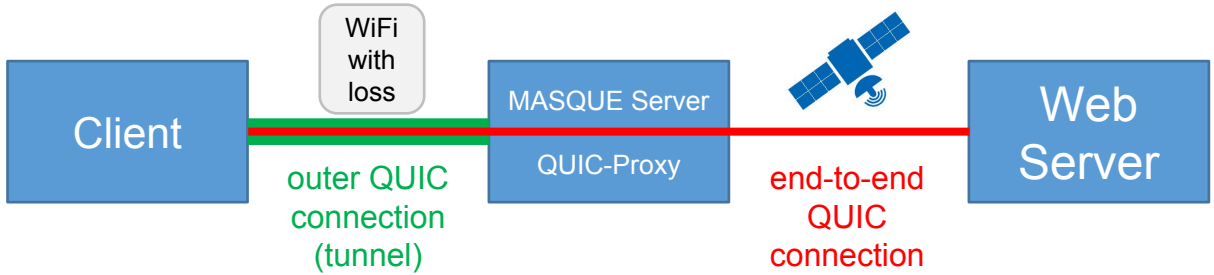
QUIC proxies and MASQUE

- Ongoing standardization of **explicit** QUIC proxies
  - https://datatracker.ietf.org/wg/masque

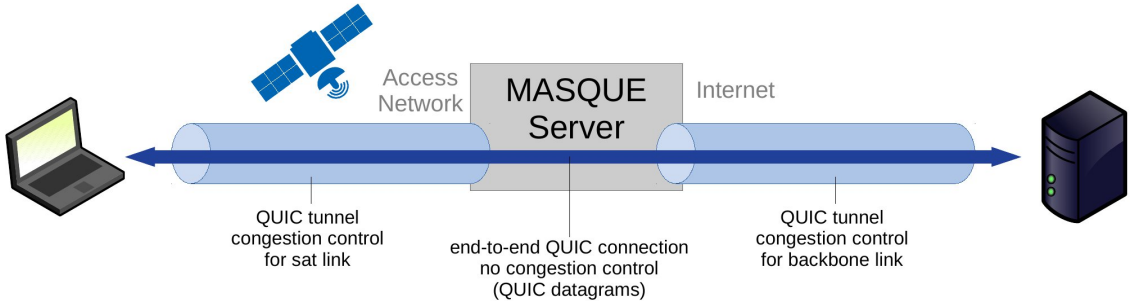


Adapted from https://datatracker.ietf.org/meeting/107/materials/slides-107-masque-masque-master-slide-deck-02

  - Benefit for high-latency satellite links?
    - Local loss recovery between Client and MASQUE Server (no performance evaluations yet)
    - But still end-to-end congestion control impacted by high latency

QUIC proxies and MASQUE

- A more radical approach?
  - *Path-wise congestion control*
    run congestion control only on outer tunnels



  - See also *multi-domain congestion control* by Zsolt Krämer et al.
    - "Cooperative performance enhancement using QUIC tunneling in 5G cellular networks" (ANRW 2021)
    - "A Lightweight Performance Enhancing Proxy for Evolved Protocols and Networks" (CAMAD 2020)
    - "Towards Multi-Domain Congestion Control in Next-Generation Networks" (WCNC 2019)
- Feasability?
  - End-to-end connections without congestion control?

Side note: The new QUICSAT project

- Evaluation and optimization of new technologies and protocols (QUIC, AQM, ECN, BBR, ...) for satellite communication
- Duration: 3 years
- Funded by German Space Agency and Federal Ministry for Economic Affairs and Energy
- Project partners
  - University of Erlangen-Nürnberg
  - ND SatCom GmbH, Immenstaad
- Looking forward to running code!

German Space Agency at DLR

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INSTALLING RELIABILITY