

QUIC over Satellite

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QUIC over Satellite - Motivation

- The QUIC working group is very focused right now on near term objectives so trying to get discussion for QUIC over Satellite going on the side
 - Note that
- State of the art for PEP-ed TCP connections over geostationary satellite is > 200 Mbps per connection on actual Internet access service networks
 - Google QUIC over satellite currently is at least an order of magnitude slower than this
 - IETF QUIC may be much better than this – we don't know yet
- Focus for now is on geo but Low Earth Orbit (leo) satellites, while providing significantly lower latency, present other challenges

QUIC over Satellite - Issues

- Need support for a large bandwidth delay product to get very high throughput but breaking the equation down into bandwidth versus delay matters
 - The product drives windowing needs
 - The latency itself drives error recovery speed needs
 - This, rather than raw throughput, is the big driver these days for PEP-ing TCP over satellite
 - Provides localized error recovery
 - QUIC brings back needing to do this end to end
 - This part of the problem has some similarities to cellular network needs