Transport Layer protocol optimization in satellite network Side Meeting

Chairs: Yisong Liu, Daniel King

Note Well

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- BCP 9 (Internet Standards Process)
- BCP 25 (Working Group processes)
- BCP 25 (Anti-Harassment Procedures)
- BCP 54 (Code of Conduct)
- BCP 78 (Copyright)
- BCP 79 (Patents, Participation)
- https://www.ietf.org/privacy-policy/ (Privacy Policy)

Why are we here?

- LEO networks have developed rapidly in recent years (Starlink, Kuiper, Oneweb, etc.), providing new ways for people to access networks.
- LEO networks have the characteristic of high dynamic, which may causing packet disorder or loss.
- If the transport layer cannot cope with the possible packet loss and disorder, user experience will deteriorate.
- IETF already has some work related to satellite network, TVR, DTN, TIPTOP.
- However, the transport layer optimization for LEO networks has not been discussed.
- This meeting is about promoting broader thinking of if the transport layer protocols need to be optimized for LEO networks.
- This meeting is not about setting the stage for a bof.
- This will be recorded.

Agenda

0	Chair Welcome(3 mins)	Daniel King/Yisong Liu
1	LEO Satellite vs. Cellular Networks: Exploring the Potential for Synergistic Integration (15 mins)	Bin Hu USC & Feng Qian Tiktok
2	Handover behaviors of LEO satellite networks and impacts on the transport-layer protocols of the Internet (15 mins)	Jianping Pan University of Victoria
3	Satellite Transmission Requirements Challenges (15 mins)	Tianji Jiang China Mobile
4	Open Discussion(10 mins)	All
5	Chair Summary(2 mins)	Daniel King/Yisong Liu

Questions to Be Discussed

- Question List Suggestion:
- Questions to Have in Mind You don’t have to answer these questions, but please think about them for the discussion at the end of the meeting. (not limited to these questions)

  a. Are there any fundamental design constraints in the transport layer optimizations that were not considered by TCP/UDP?

  b. Is there a need to optimize transport layer protocols for LEO?

  c. What is the relationship with the exiting IETF work(DTN, TIPTOP)?

  d. What is next step?

  e. …