Fast Congestion management for Data Centers
draft-even-iccrg-dc-fast-congestion-00

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I E T F

DC congestion control

- The use case that we are looking at is congestion control for Data Centers, a controlled environment, see RFC8085 section 3.6.

- Datacenter applications demand high throughput(40Gbps and above) with ultra-low latency of less than 10 microsecond per hop from the network, with low CPU overhead.

- Alternatives for network congestion direction can be classifies as:
  - Based on estimation of network status: Traditional TCP, Timely, …
  - Network provides limited information: DCQCN using only ECN, SCE,L4S, …
  - Network provides some information: HPCC, …
  - Network provides proactive control: RCP (Rate Control Protocol), …

Proposed directions for DC congestion control

- Exploring these two directions
  - Reflect the network status more accurately – add metadata to the forward flow (e.g. using IOAM).
  - Notify the reaction point as soon as possible – report directly from the network to the sender (e.g. IOAM direct export)
- Issues to be addressed are discussed in the draft

Next Step

- Looking if there is interest in this direction.
- Side meeting Tuesday 8:30 Room VIP A
- Did some initial tests providing more information from the network. Will present initial test results in the side meeting.