Data Transfer performance

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Slow flows

ESnet High Touch system has shown that flows in LHCONE run with a low throughput, below 1Gbps and around 200Mbps in average

It has also shown that there are almost no retransmitted packets, which means no packet loss. Which means that TCP stops increasing the rate of the flows before getting any hints of congestion.

Thus TCP performances on the long distance must be limited by TCP settings.
It seems that all the tuning recommendation given 10-15 years ago have been forgotten.

Also applications have forgotten early recommendations and best practices.
E.g. GridFTP was multi-stream, while now FTS uses https/webdav single stream (curl with no special setting)

Action list

Tune EOS storage nodes and their clients to:
- adopts ESnet Fasterdata recommendations to improve performances

after the tuning:
- verify benefits of using Jumbo frames
- verify benefits of using aggressive TCP congestion protocols like BBR

Volunteers are welcome