What Level of Estimating Accuracy
Does TCP Need and Can TCP Achieve

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0, Question: Ahead of the occurrence of network congestion, can we estimate the TCP operating point (BDP) accurate enough to meet TCP requirement?

What Level of Accuracy Does TCP Need?
The Analysis Model we use,

\[ W = BDP \]

Physical Meaning: \( BDP_E = \frac{1}{\gamma} \alpha \cdot \frac{1}{\gamma} BDP = \alpha \)

for Stability Requirement, we obtain low bound,
Avoid Oscillation of Network State

Critical Point

for Throughput Requirement, we obtain up bound,
Avoid Low Throughput

What Level of Accuracy Can TCP Achieve?

Accuracy of Estimation can be Guaranteed.

Input \( \Delta t_M \) & \( \Delta t'_M \)

Method Future Work: How to Estimate?

Output \( BDP_E \)

4, More Discussion:
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