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Reducing Transport Latency for short flows with multipath TCP

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Abstract

Multipath TCP (MPTCP) has been an emerging transport protocol that provides network resilience to failures and improves throughput by splitting a data stream into multiple subflows across all the available multiple paths. While MPTCP is generally beneficial for throughput-sensitive large flows with large number of subflows, it may be harmful for latency-sensitive small flows. MPTCP assigns each subflow a congestion window, making short flows susceptible to timeout when a flow only contains a few packets. This condition becomes even worse when the paths have heterogeneous characteristics as packet reordering occurs and the slow paths can be used with

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