



Research Letters in Communications

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Research Letter

A Simple Mechanism for Throttling High-Bandwidth Flows

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Abstract

This letter presents BREATHe, a simple packet dropping scheme for identifying and throttling unresponsive or misbehaving high-bandwidth flows during times of congestion. BREATHe is different from the existing active queue management techniques in that it uses heavy-hitter set analysis to identify highbandwidth flows rather than sampling or rate estimation. Specifically, BREATHe uses heavy-hitter set analysis to detect highbandwidth flows that exceed some target rate rlimit and preferentially drop packets from these flows. We show that the proposed mechanism is effective at throttling high-bandwidth flows using a small amount of state and low complexity operation.

Abstract

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