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Analogues between tuning TCP for Data Acquisition and Datacenter Networks [1]

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A many-to-one communication pattern is present both in Data Acquisition (DAQ) and datacenter networks. The problem arising from this pattern is widely known in the literature as incast and can be observed as TCP throughput collapse. It is a result of overloading the switch buffers, when a specific node in a network requests data from multiple sources. This paper provides two contributions. First, we confirm that there are strong analogies between the TCP behavior in DAQ and datacenter networks. Second, we evaluate different proposals from datacenter for application in DAQ to improve performance and reduce buffer requirements.

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