

Abstract

Network congestion in data networks and in theory is a decrease in service quality that occurs when a network node or link carries more data than it can handle. The consequence of data congestion is a gradual increase in the offered load leading to a decrease in network throughput. Network protocols that use aggressive retransmission to compensate for packet loss because congestion can increase further congestion, even after the initial load is reduced to levels that would not normally cause network congestion. Such a network shows two stable states under the same load level, the stable state with low throughput is called congestive collapse. Thus, congestion control techniques are used to avoid data congestion on the network, namely by using the Accel-Brake Control (ABC) protocol which can avoid data congestion better than other congestion control techniques. The parameters to be analyzed are the resulting throughput and other supporting results, then it will be compared with the BBR protocol which is a high speed and low delay protocol. From the results of research conducted, the ABC protocol has a greater total throughput and less delay compared to BBR.

Keywords: Network congestion, Accel-Brake Control, Bottleneck Bandwidth and Round-trip propagation time, Data congestion, congestion control, throughput