Effective Internet Traffic Management by Reducing Congestion in TCP Cubic through Proactive Approach

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Abstract

The future of modern Internet is adapting Cloud Computing, IoT and 3D technology over the Internet. So, Internet needs to exchange a huge amount of information in the form of packets of requests, responses and controlling data. An Internet connection always has finite throughput and can only support certain number of packets at a time. Transferring too many packets on Internet connection can produce heavy Internet Traffic which may cause bottleneck or network congestion. Meanwhile, the operations between the communication devices also affect and slow down. Effective congestion control is one of the most critical issues in the efficiency of Internet Traffic Management. To make it sustainable and efficient, a systematic approach to planning, testing and maintaining its behavioral mechanism is desirable to avoid network congestion and keep the data flowing smoothly. In this area of traffic management, the research will be conducted on different TCP variants and proposed a model of congestion avoidance. The new Congestion Avoidance algorithmic model will enhance the performance and utilization of the network, by making TCP more flexible and efficient protocol with a new proactive approach. The results of analysis will help the industrial developers and researchers to
implement the proposed solution in Linux Kernel for more stable version of TCP.

References


Index Terms

Computer Science Information Sciences

Keywords
TCP, CUBIC, Congestion Avoidance, Congestion Control, TCP Variants, Internet Traffic Management, Network Congestion,