Abstract

It has been widely used traffic modeling methods, including Poisson Process and Markov Modulated Poisson Process (MMPP). Poisson Process modeling generate traffic with fixed arrival rate, while MMPP modeling generate traffic with non-fixed arrival rate. In this final project is built client-server simulation using NS-2 simulator that implements Poisson Process and MMPP as HTTP traffic generator, and analyze the effect of MMPP modeling of web server performance.

Web server performance is affected by arrival rate and interarrival time of traffic modeling. MMPP modeling generate traffic that is bursting thus affecting web server performance, especially response time and utilization. When a dense traffic occured, it means that request that come to server increase, hence increasing the number of request queue and arrival rate which makes the response time and utilization increases. On the contrary, when the traffic is loose, it means the request that come to the server decrease, so the number of request in a queue and the arrival rate decrease, causing the response time and utilization decrease.

Keywords: traffic modeling, Poisson Process, Markov Modulated Poisson Process (MMPP), web server performance