International J. of Engg. Research & Indu. Appls. (IJERIA).
ISSN 0974-1518, Vol.2, No. VI (2009), pp 311-321

A NEW APPROACH FOR INTERNET CONGESTION AVOIDANCE AND TRAFFIC SPLITTING

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Abstract

In this paper we propose a bursty traffic splitting algorithm splits the traffic flows over multiple parallel paths, based on a split vector. In this algorithm, instead of switching packets or flows, it switches packet bursts. Since the packet bursts are smaller in size, the algorithm splits the traffic dynamically and accurately. At the same time, the condition forced on their latency difference, ensures that no packets are reordered. To achieve fair bandwidth allocations, load balancing is attained in the system since the high-rate aggressive traffic flows are splitted along multiple parallel paths. The proposed switching technique is executed in the edge and core routers. We will show by simulations that our adaptive packet scheduler performs better than the standard fair-queuing techniques.

Keywords: Load Balancing, Splitting, Bursty Traffic, Aggressive Flows, Scheduler, RED