Abstract

This paper presents a novel approach for implementing quality of service as demanded by evolving applications in the Internet. For some decades now, research efforts have led to the extension of the TCP/IP in order to make the Internet a full-fledged quality of service network. Novel in the extension is the invention of the Integrated services and Differentiated services architectures. The Differentiated services architecture was widely accepted among researchers because of its scalability. In order to achieve some of the refinements to the current TCP/IP protocol by the IETF for DiffServ implementation in the Internet, new traffic management mechanisms such as differential packet buffering cum differential allocation of available link bandwidth are needed. This report studied some suggested scheduling algorithms in literature on how to incorporate a multi-queue paradigm and enforce service level agreement in the Internet. A new scheduling model that ensures maximum utilization of network bandwidth is used to assess experimental implementation of Differentiated services in a QoS-based router. The model, termed, carry-on Weighted Round Robin (cWRR) proved better than the original Weighted Round Robin (WRR) scheme in terms of low higher throughput and fairness to traffic sources in a multi-queue network core router paradigm.
References

Index Terms

Computer Science  Communications

Keywords

Diffserv  Qos Router  Scheduler  Tcp/ip  Wrr