

VBR Video Traffic Models

by Savera Tanwir and Harry Perros

Phenomenal growth in video applications over the last few years, along with the growing number of multimedia users, has increased bandwidth requirements exponentially. Consumers are increasingly discerning about the quality and performance of video-based products and therefore there is a strong incentive for continuous improvement in multimedia technologies and communication infrastructure. However, the design of robust and reliable networks and network services is increasingly difficult. In order to design efficient networks and services it is important to have a detailed understanding of the traffic characteristics of the network.

An accurate traffic model of variable bit rate (VBR) video is necessary for performance evaluation of a network design and for generating synthetic traffic that can be used for benchmarking a network. A plethora of VBR video traffic models have been proposed in the last two decades, the majority of which have not previously been surveyed or evaluated. In this book the authors provide a comprehensive survey and comparison of these video traffic models for different types of videos. Moreover, they evaluate different models and present the results, greatly benefitting students and researchers in the field of video analysis and modeling, as well as network engineers looking to generate synthetic video traffic to benchmark their network.

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