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TRAFFIC MONITORING AND POLICING IN MULTIMEDIA COMMUNICATION SYSTEMS

Marcio Faerman

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Thesis Supervisor: Otto Carlos Muniz Bandeira Duarte

Department: Electrical Engineering

The resources of multimedia communication systems - as bandwidth and buffers - generally are shared by many users. It becomes necessary to monitor and control the traffic submitted to the communication system, in order to share these resources in a organized way and to meet the quality of service requirements. This work studies traffic monitoring and policing mechanisms. It is proposed a new policing mechanism: the Time Slotted Moving Window. This mechanism is characterized by its flexibility and its low cost of implementation. The policing mechanisms are compared and analyzed, with experimental results which evidence a good performance of the new proposed mechanism. In addition, it is important to emphasize the proposal of an implementation of statistical multiplexing functionalities in the GTA/MM architecture. This set of functionalities can be used in research and development of test beds related to resource sharing in communication systems. In addition to studies concerning traffic policing issues, the set of statistical multiplexing functionalities can also be used in studies of resource allocation and management, congestion control, media synchronization, among others.