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Thesis Title: Design and Implementation of RTP Stream Classification
Methods

Abstract

With real-time multimedia network applications becoming more and more popular, RTP is widely accepted for transporting continuous multimedia data over networks. A great number of network applications require classification of RTP streams. However, as an application layer protocol, RTP streams transmit on dynamically assigned UDP ports and cannot be classified via traditional packet classifiers. In this thesis, we implement four RTP stream classification methods, which identify RTP streams using heuristic algorithms and stateful inspection of UDP payload. Two of the four methods are existing methods and the other two are our original design. Realistic experiments are conducted on test-bed to measure performance, overhead, and accuracy of these four methods. We evaluate these four methods based on experimental results analysis and give suggestion on method choice under different network and system conditions. The contribution of our work is the pioneering efforts in the research field of RTP stream classification.

Keywords:

RTP, RTCP, JPEG, classification, Click, router.