

***Abstract: C-classifier: A Mechanism for Better Traffic Classification Using Packet Size Distribution***

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**Abstract**

In recent years, the growth of network traffic has been a major burden on network management and control, which is the critical component to provide user quality of experience (QoE). In particular, conventional traffic classification mechanisms, such as port traffic detection, deep packet inspection (DPI) are no longer adequate to provide preferential treatment to services effectively. Deducing the correlation of application traffic from limited packet information for classification purposes has become one of the most important concerns in network traffic management and control. In this regard, we propose a new application classification system called “Competent-classifier” (C-classifier). The proposed solution builds the Packet Size Distribution (PSD) to characterize the application traffic, and uses the Relative Entropy measurement to identify and classify the applications. Results showed that our proposed scheme performed the best. If the proposed C-classifier scheme works with the Dynamic Bandwidth Allocation (DBA) mechanism, the QoE can be improved over the long term by taking into account the real resource requirements for each application and preventing other applications from stealing resources.

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