

## Documents

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### **Towards a Streaming Approach to the Mitigation of Covert Timing Channels**

(2018) *2018 14th International Wireless Communications and Mobile Computing Conference, IWCMC 2018*, art. no. 8450468, pp. 255-260.

#### **Abstract**

Leaking data using covert timing channels is considered as a critical threat in network communication. These type of channels use the time between inter-arrival packets to pass information between different processes, making it a very critical to design techniques to eliminate and mitigate such channels; hence, ensuring a more secure communication environment. This paper proposes a new online streaming approach to the mitigation of covert timing channels. The new approach eliminates covert timing channels while having a little impact on the overall Quality of Service (QoS). A classification-based strategy was used to test the performance of the proposed mitigation model. In fact, we showed that the classification accuracy of a classifier model trained and tested on a mitigated flow fell down to 50% compared to the same classifier model when trained and tested on the same flow before mitigation indicating that the classifier is no longer able to distinguish between covert and overt channels. © 2018 IEEE.

2-s2.0-85053892916

**Document Type:** Conference Paper

**Publication Stage:** Final

**Source:** Scopus