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Hiding cloud network access patterns for enhanced privacy

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The cybersecurity landscape in the last years shows a disastrous scenario in which more than 281 million people were affected by cyber-threads in 2021 with an estimated financial impact of more than $15.680 million. Perimeter breaching is the incipient step that attackers take when they target external networks. According to the latest research1, on average the penetration of the internal networks of the majority of companies takes no more than two days. With this paper, we intend to get one step closer to a secure network desideratum. Therefore, we propose a real-time security mechanism for network traffic using obfuscation and deobfuscation techniques over the XMPP protocol. We evaluate the proposed solution in terms of time frame, speed, and rate limiting delay.

Authors: Mr APOSTOL, Gabriel-Cosmin (University POLITEHNICA of Bucharest); MOCANU, Bogdan-Costel (University POLITEHNICA of Bucharest); Mr RĂDULESCU, Dragoș-Mihai (University POLITEHNICA of Bucharest); Mr PETRE, Ionuț (National Institute for Research & Development in Informatics - ICI Bucharest); Prof. POP, Florin (University POLITEHNICA of Bucharest)

Presenter: Mr APOSTOL, Gabriel-Cosmin (University POLITEHNICA of Bucharest)

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