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Privacy-Preserving Personal Data Operation on Mobile Cloud - Chances and Challenges over Advanced Persistent Threat

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Abstract

Bring your own devices have become a new symbol of industrial and education institutional culture to date. A single individual can gain access to personal data anytime at anywhere of his/her workplace due to the advanced WiFi/5G network and cloud technology. The most convenient way for us to access to cloud data is to use personal smartphone. However, smartphone is somewhat vulnerable (because of its innate disadvantage, e.g., low security protection and limited computation resource) while encountering with malicious attacks in open network. Mobile users may be the victims of a recent new type of attack - *advanced persistent threat* (APT), since attackers may penetrate into different levels of cloud and mobile infrastructures to eavesdrop, steal and temper data. This survey paper introduces some security/privacy risks on mobile cloud in the view point of applied cryptography. Meanwhile, it provides some insights as possible solutions for the risks.

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