Public auditing for real-time medical sensor data in a cloud-assisted IoT system

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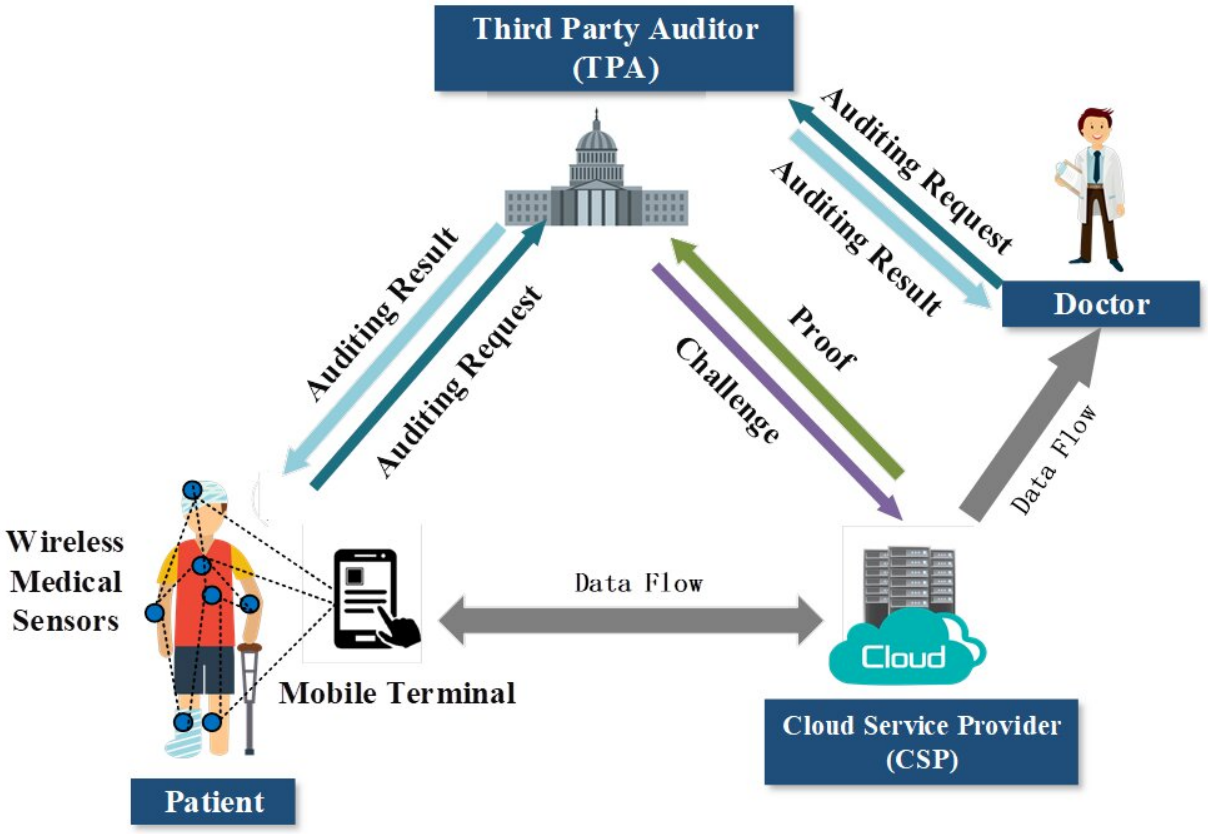

Public auditing model for medical sensor data in the cloud-assisted HealthIIoT system. Credit: Weiping Ye et al

The cloud-assisted healthcare industrial internet of things (HealthIIoT) system has many advantages, but there are still some serious security

issues within outsourcing medical sensor data to the cloud. One of the most significant challenges is how to ensure the integrity of these data, which is a prerequisite for providing precise medical diagnosis and treatment.

Accordingly, cloud auditing has been proposed to ensure the correctness and completeness of outsourced data. So far, cloud auditing has made great achievements. However, in the cloud-assisted HealthIIoT system, there are still some vital problems that have not been properly resolved.

Researchers led by Prof. Hui Tian at Huaqiao University, China, are interested in public auditing for real-time medical sensor data in the cloud-assisted HealthIIoT system. Specifically, to address the contradiction between the high real-time requirement of medical sensor data and the limited computing power of HealthIIoT devices, a new online/offline tag generation algorithm is designed to improve preprocessing efficiency; to protect medical data privacy, a secure hash function is employed to blind the data proof.

The experimental results show that the presented scheme can greatly improve the efficiency of tag generation, while achieving better auditing performance than previous schemes.

The work was published on *Frontiers of Optoelectronics*.

More information: Weiping Ye et al, Public auditing for real-time medical sensor data in cloud-assisted HealthIIoT system, *Frontiers of Optoelectronics* (2022). DOI: 10.1007/s12200-022-00028-1

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