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An Authentication and Access Control Model for Healthcare based Cloud Services

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ABSTRACT

Electronic Health Record (EHR) systems are used as an efficient and effective method of exchanging patients' health information with doctors and other key stakeholders in the health sector to obtain improved patient treatment decisions and diagnoses. As a result, questions regarding the security of sensitive user data are highlighted. To encourage people to move their sensitive health records to cloud networks, a secure authentication and access control mechanism that protects users' data should be established. Furthermore, authentication and access control schemes are essential in the protection of health data, as numerous responsibilities exist to ensure security and privacy in a network. So, the main goal of our suggested solution is to maintain a secure authentication and access control mechanism for health cloud data. Thus, in this work, Security Secret Key Provider (SSKP) phase is proposed for the E-healthcare-based cloud that consists of two parts. The first is an authentication scheme that is Security Secret Key (SSK) and the second is a modular access control mechanism. We explain the methodology of the proposed approach through appropriate evaluation results, which improves system security and performance by minimizing the time spent to get authentication and access the data. Simulation results indicate that our approach is significantly more effective than existing research.

Keywords: Cloud, Data security, privacy, Authentication, Access control, E-healthcare.