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SURVEY ARTICLE

Secure Personal Health Records in Clouds: A Hierarchical Attribute Based Solution

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Abstract—PHR or Personal Health Record is the health information that is recorded and maintained by the patient, in the clouds, for global information exchange. Since it is stored in clouds, there is a possibility of sensitive patient data being accessed by unauthorized people for illegal gain. Some open challenges in having PHRs in cloud relate to flexibility, scalability, security and privacy. Even though the technique of encrypting PHRs before outsourcing (for instance, using Attribute Based Encryption) is a common one, there are several issues associated with the current techniques used for encrypting PHRs. This paper proposes a method of encrypting PHRs prior to outsourcing by means of Hierarchical Attribute Set-Based Encryption which achieves the above said challenges along with fine-grained access control to the medical data.

Keywords- Personal Health Record; Clouds; Security; Flexibility; Attribute Set-Based Encryption; Hierarchical access structure

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