

A Modified Hierarchical Attribute-Based Encryption Access Control Method for Mobile Cloud Computing

ABSTRACT:

Cloud computing is an Internet-based computing pattern through which shared resources are provided to devices on demand. It is an emerging but promising paradigm to integrating mobile devices into cloud computing, and the integration performs in the cloud based hierarchical multi-user data-shared environment. With integrating into cloud computing, security issues such as data confidentiality and user authority may arise in the mobile cloud computing system, and it is concerned as the main constraint to the developments of mobile cloud computing. In order to provide safe and secure operation, a hierarchical access control method using modified hierarchical attribute-based encryption (M-HABE) and a modified three-layer structure is proposed in this paper. In a specific mobile cloud computing model, enormous data which may be from all kinds of mobile devices, such as smart phones, functional phones and PDAs and so on can be controlled and monitored by the system, and the data can be sensitive to unauthorized third party and constraint to legal users as well. The novel scheme mainly focuses on the data processing, storing and accessing, which is designed to ensure the users with legal authorities to get corresponding classified data and to restrict illegal users and unauthorized legal users get access to the data, which makes it extremely suitable for the mobile cloud computing paradigms.

EXISTING SYSTEM:

- ❖ Senders encrypt message with certain attributes of the authorized receivers. The ABE based access control method uses several tags to mark the attributes that a specific authorized user needs to possess. The users with certain tag sets can get access to the specific encrypted data and decrypt it.
- ❖ Lots of paper introduced the scheme about the attribute based encryption access control method in the cloud computing. In the mobile cloud computing environment, there are tremendous data which needs to be processed and marked with attributions for the convenient attributing access before storing. At the same time, the hierarchical structure of the application users need an authentication center entity to control their attributes.

DISADVANTAGES OF EXISTING SYSTEM:

- ❖ Does not guarantee Availability
- ❖ Issues of Confidentiality. Consumers' data were not kept secret in cloud systems
- ❖ Data Integrity Issue
- ❖ No Multiple Controls

PROPOSED SYSTEM:

- ❖ In the proposed scenario, users with different privilege levels have different rights to access the part of sensing data coming from the mobile devices. Therefore, one same data has to be encrypted into ciphertext once, which ought to be able to be decrypted multiple times by different authorized users.

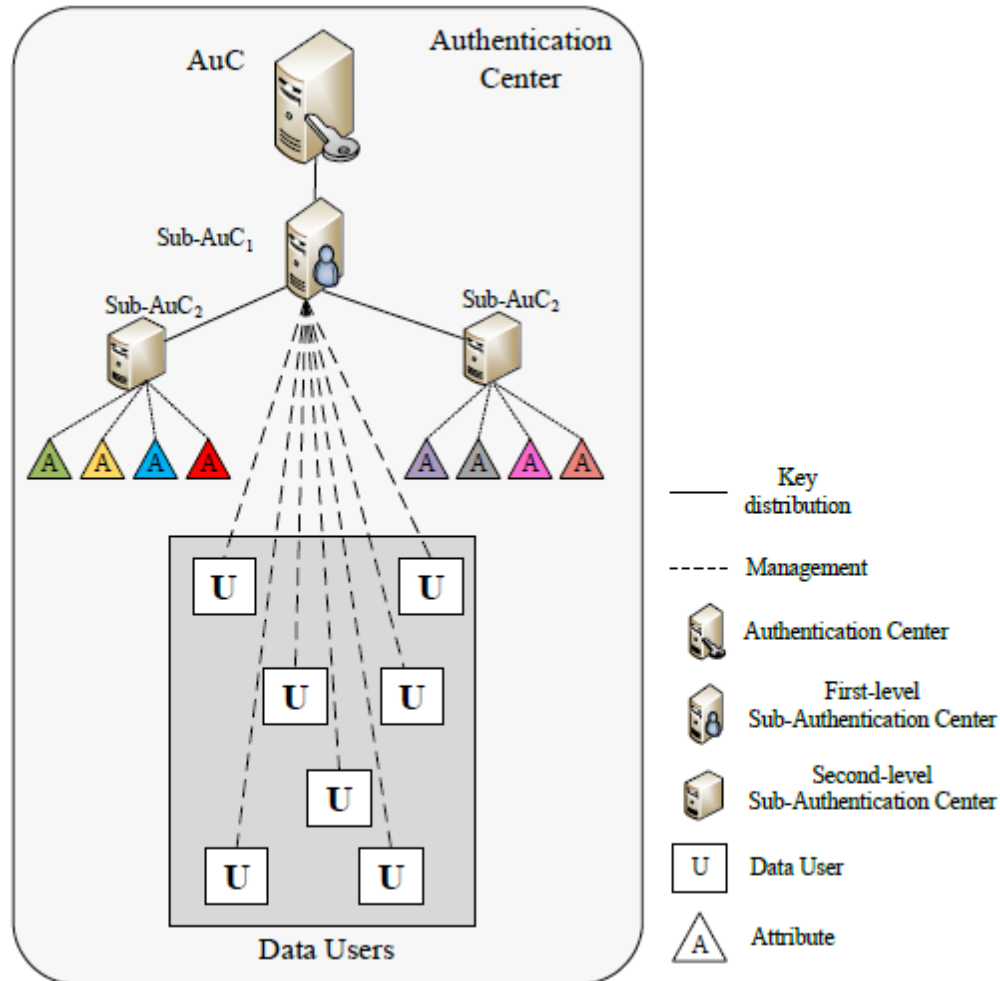
- ❖ In this paper, a hierarchical access control method using a modified hierarchical attribute-based encryption (M-HABE) and a modified three-layer structure is proposed.
- ❖ Differing from the existing paradigms such as the HABE algorithm and the original three-layer structure, the novel scheme mainly focuses on the data processing, storing and accessing, which is designed to ensure the application users with legal access authorities to get corresponding sensing data and to restrict illegal users and unauthorized legal users get access to the data, the proposed promising paradigm makes it extremely suitable for the mobile cloud computing based paradigm.
- ❖ What should be emphasized is that the most important highlight of all in the proposed paper can be described as that the modified three-layer structure is designed for solving the security issues illustrated above.

ADVANTAGES OF PROPOSED SYSTEM:

- ❖ One ciphertext can be decrypted by several keys.
- ❖ Both precise level description and user attribute should be supported in the access structure of the method.
- ❖ The keys in the authentication center ought to have the same hierarchical structure just as the structure of users privilege levels.

SYSTEM ARCHITECTURE:





SYSTEM REQUIREMENTS:

HARDWARE REQUIREMENTS:

- System : Pentium Dual Core.
- Hard Disk : 120 GB.
- Monitor : 15''LED

-
- Input Devices : Keyboard, Mouse
 - Ram : 1GB.

SOFTWARE REQUIREMENTS:

- Operating system : Windows 7.
- Coding Language : JAVA/J2EE
- Tool : Netbeans 7.2.1
- Database : MYSQL

REFERENCE:

YuanpengXie, Hong Wen, Bin Wu, Yixin Jiang and JiaxiaMeng, “A Modified Hierarchical Attribute-Based Encryption Access Control Method for Mobile Cloud Computing”, **IEEE Transactions on Cloud Computing, 2017.**