

## **MTBAC: A mutual trust based access control model in Cloud computing**

### **Abstract:**

As a new computing mode, cloud computing can provide users with virtualized and scalable web services, which faced with serious security challenges, however. Access control is one of the most important measures to ensure the security of cloud computing. But applying traditional access control model into the Cloud directly could not solve the uncertainty and vulnerability caused by the open conditions of cloud computing. In cloud computing environment, only when the security and reliability of both interaction parties are ensured, data security can be effectively guaranteed during interactions between users and the Cloud. Therefore, building a mutual trust relationship between users and cloud platform is the key to implement new kinds of access control method in cloud computing environment. Combining with Trust Management(TM), a mutual trust based access control (MTBAC) model is proposed in this paper. MTBAC model take both user's behavior trust and cloud services node's credibility into consideration. Trust relationships between users and cloud service nodes are established by mutual trust mechanism. Security problems of access control are solved by implementing MTBAC model into cloud computing environment. Simulation experiments show that MTBAC model can guarantee the interaction between users and cloud service nodes.