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**A ROBUST REPUTATION MANAGEMENT MECHANISM IN**

**THE FEDERATED CLOUD**

**Abstract:**

In the Infrastructure as a Service (IaaS) paradigm of cloud computing, computational resources are available for rent. Although it offers a cost efficient solution to virtual network requirements, low trust on the rented computational resources prevents users from using it. To reduce the cost, computational resources are shared, i.e., there exists multi-tenancy. As the communication channels and other computational resources are shared, it creates security and privacy issues. A user may not identify a trustworthy co-tenant as the users are anonymous. The user depends on the Cloud Provider (CP) to assign trustworthy co-tenants. But, it is in the CP’s interest that it gets maximum utilization of its resources. Hence, it allows maximum co-tenancy irrespective of the behaviours of users. In this paper, we propose a robust reputation management mechanism that encourages the CPs in a federated cloud to differentiate between good and malicious users and assign resources in such a way that they do not share resources. We show the correctness and the efficiency of the proposed reputation management system using analytical and experimental analysis.