Enhancing Cloud Security using Decentralized Information Flow Control

IJCA Proceedings on National Conference on Advancements in Computer & Information Technology

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NCACIT 2016 - Number 1

Year of Publication: 2016

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Abstract

There is major demand to introduce cloud computing in many organizations today. The reason is cloud’s sharing infrastructure, multi-tenancy and huge storage facilities ensures increase in computing efficiency, flexibility, generality and cost effectiveness. But with this, organizations want that the computing platform should be secured and should satisfy all the important rules and regulations. So security is the key point for the success of cloud computing. It is examined that cloud computing is less satisfactory in providing security due to its heterogeneity. In this paper a solution named - Decentralized Information Flow Control (DIFC) is defined to solve the problem of security specifically of Software as a Service (SaaS) level.
DIFC is a Mandatory Access Control method which is able to provide better security and integrity than is provided by other approaches available today. DIFC enforce general policies by using proper labeling and checking methods. DIFC gives a way to control and monitor the flow of data continuously according to the policy. Hence we believe that DIFC is a powerful tool to enhance SaaS cloud security and to help cloud providers to satisfy rules and regulations and audit this compliance with easy in future.

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**Index Terms**

Computer Science
Distributed Systems

**Keywords**

Decentralized Information Flow Control  Information Flow Control  Access Control
Secure Cloud Computing
Data Security
Labelling.