



## A SECURE CLOUD – BASED WEB APPLICATION AGAINST POLLUTION ATTACK AND CONVINCING FILE TECHNIQUES

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### ABSTRACT:

Cloud is the collection of virtualized and interconnected networks that consists of parallel and distributed system. Security and privacy of information is the biggest challenge for cloud adoption which can be overcome by employing encryption and security techniques. Pollution attacks are the abrasive threat to cloud data in which the intruders inject malicious packets into the network. This paper provides a solution for the pollution attack which able to spot the presence of an attack while fetching the data from cloud storage. Before uploading data to cloud it is encrypted using RC5 algorithm. Hashing techniques are employed to detect polluted contents. The content distribution network (CDN) servers transmits data along with calculated hash value. The network peers applies the same hash algorithm to compute hash code for the received data. These two hash values are compared to identify any pollution during transmission. Though the cloud storage providers are safe in practice, some authorities may force them to reveal user secrets or confidential data on the cloud. The proposed system also provides solution to preserve user data confidentiality and integrity after outsourcing. Some entities may intercept communication between user and cloud storage providers to release user secrets by using government power or by other means which results in data leakage. In order to avoid data leakage and to increase trust level between the Cloud Service Provider (CSP) and the user, we propose a solution of creating proxy file which will be delivered to other entities.

INDEX TERMS --- Cloud Computing, Pollution attack detection, Data Integrity, Authentication, and Proxy File Creation.

### [1] INTRODUCTION

Providing protection for the cloud data is a factor which affects the rate of cloud adoption. Security of data to the cloud represents a key concern for users, system designers and service providers. A Cloud is a pool of virtualized computer resources. A cloud can host a variety of different workloads including batch style backend jobs and interactive and user-facing application. Cloud Computing is one of the significant development that utilizes progressive computational power and upgrades data distribution and data storing facilities. Cloud information repository is involved with issues of information integrity, data security and information access by unapproved users. The cloud supports redundant, self-recovering, highly scalable programming models that allows workloads to recover from many unavoidable hardware/ software failure. Cloud computing leverages its low cost and simplicity to benefit for both users and providers. It provides that means of accessing the application over internet i.e., to create, configure, customize the online application. The cloud computing resources can be used without any interaction of service provider. It allows thousands of services to work simultaneously. Among the many risks to data security, pollution attacks represent one of the most dangerous threats to data integrity i.e., the ability of ensuring data trustworthiness. In this kind of attack, malicious entities take control of one or more storage resources to corrupt (pollute) data (or parts of it) so as to hinder data availability.

However, to unlock their full potential, various problems need to be properly addressed, including performance of data access, as well as data availability and security. Why cloud computing are used, explosive growth in application, extreme scale content generation, extra ordinary rate of digital content consumption, exponential growth in computer capabilities, newer architecture. Advantages of cloud is first one is Cost efficient, building our own server and tools in time consuming as well as expensive also, we need to order, pay for installation and configuration expensive hardware. Second one is Reliability, it guarantees 24 x 7 and 365 days of service, if any server fails then hosted applications and services can be easily transmitted to any of the available servers. Third one is unlimited storage, we can access as much or little that we need. Cloud computing has a different types of pollution attacks, they are Denial of service attack, Cloud malware injection attack, Side channel attack, Authentication attack. When denial of service attack defines, any type of attack where the attackers attempt to prevent legitimate users (member, employee, account holder etc.) from accessing the services. The second attack, Malware injection attack is done via compromised FTP. Password is send to hacker then a hacker may inject or the hacker then uses your ftp password to access our website and add malicious iframe coding to inject other visitor who browse your website. Inline frame is a HTML element that allows an external webpage to be embedded into HTML document. Inline frame can be inserted anywhere within a webpage layout. Third attack,