

# Trust and Reliability Control by Continuous Auditing: Ensuring Cloud Security.

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**ABSTRACT:** Cloud computing is emerging technology with various benefits like access from anywhere, low cost, minimum budget and many more. But with all these advantages there are some problems also can be face in cloud computing. In the context of cloud computing, trust more important factor for users [9], [10]. Trust is based on several factors such as reputation, reliance, degree of control, scope of influence, and predictability. It means user can rely on something to behave or deliver as expected. In particular, control influences trust significantly: how much control a client holds in a service that processes and stores valuable data assets affects how much trust that client has in the provider. "Control" in this context is not regarding with the access control for particular data of any user, in our context control is nothing but the client's view to what exactly to protect. So Cloud service certifications (CSC) [4], [6] are used to give reliability of any service provider and to gain customers trust that there data is protected on cloud. But all those certificates provided to service provider might be not maintained all criteria over there validity period. Thus continuous auditing (CA) of selected certification criteria is required to assure continuously reliable and secure cloud services, and thereby increase trustworthiness of certifications. And we contribute the suggestions to customer about the reliability of service provider also warning alerts to service provider about their reliability status.

**KEYWORDS:** Cloud Certification, cloud computing, continuous auditing, security, trust

## I. INTRODUCTION

Cloud computing is emerging technology which enables universal, adoptable, on-demand access to shared data. Cloud increases its storage capacity and decreases the cost of processing. During the process of data outsourcing cloud service certification provides guarantee of high level security measures as well as the better solution for upcoming complications and gives security assurance to customer [9], [10]. Many customers select service providers with cloud service certification. But service providers are not fully trusted; they are semi-trusted [5]. They may behave dishonestly and can misuse or alter customer's private data. So continuous auditing of certificates provided to service provider is required to assure reliability of services provided by cloud and to ensure security in cloud which can increase trustworthiness of certifications.

The third party auditing strategies for auditors and providers, linked together in a conceptual architecture to diffuse the concept of continuous cloud service auditing. From this work we have proposed online continuous auditing of cloud certificates by applying some criteria's from customer prospective to store data securely on cloud and to have control over these data to protect important data. For instance, auditing as a service in the context of cloud. Continuous auditing is a process that enables independent auditor to provide trust in cloud and continuously checking the reliability of all certificates provided to service providers in short period of time after existence of the events hidden in subject matter. Such auditing of cloud certification is carried out by some criteria's. Some criteria like customers review, ratings key policies, data integrity to conceptualize architecture for continuous cloud service auditing [7], [8]. CSC criteria have to audit continuously, to identify the reliability of certificates and service quality cloud. CA is transfer to the new concept for further more research to demonstrate benefits, issues, disadvantages and limitations etc. of CA of cloud services. A CA technique enables CSP with reasonable trustworthy certifications and services. Continuous auditing from which cloud can assures high level of security as well as reliability to CSP.

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## Background:

Cloud service certificates is used for providing user data security guarantee and to implement trust in cloud computing. Some reputed organization provides such cloud service certificates to service providers. But some service providers not maintain their reliability criteria and behave dishonestly in given validity time period. Thus it is required to check service provider's certification reliability by continuous auditing the certificates.

## Motivation:

Cloud service certificates assure trust in cloud. But not all certificates are maintained on the basis of quality of service provided by service provider. Thus continuous auditing is required to check quality of service provided by service provider. Our proposed system motivates us:

1. By managing Cloud Service Certification validity period and its quality of service. Some reputed organization provides such cloud service certificates to service providers.
2. To assure transparent, continuously reliable, and secure cloud services.
3. To provide the security and integrity to user's data.

## II. EXISTING SYSTEM APPROACH

Cloud provides the beneficial features for end user i.e. low storage cost, increasing capacity. Many business and applications processes get extra financial benefits as cloud permits them for pay-per-use mechanism. Cloud assures high level of security service while storing customer's data. Cloud service certificates are provided to assure security guarantee and implement trust in cloud but as every-one is aware of ever changing environment of cloud also multi-year validity periods may arises the service reliability issues [7], [8].

### Disadvantage of Existing System

- 1) Not much reliable and less secure.
- 2) Not accurate cloud certification auditing criteria's are provided.
- 3) Multi-year-validity period creates the reliability issues

## III. PROPOSED SYSTEM APPROACH

In this paper, we study the problem of providing better and secure cloud services using cloud certification with new and effective criteria's [2]. But all the certifications provided to the Cloud service provider are not reliable continuously. We propose a solution, by continuous auditing of certification provided to cloud service provider. The first aim of Continuous auditing is a process that enables independent auditor to provide declaration on subject matter using the sequence of audit report issued in short period of time after existence of the events hidden in subject matter. Therefore, CA approves auditor to react to modify events with respect to the subject matter to adjust their auditing reports. CSC criteria have to audit continuously, to identify which kind of CA mechanism is applicable for continuous cloud service auditing and finally how to integrate methodologies to build architecture that enables CA. CA is transfer to the new concept to online checking of certificates reliability of cloud services.

### Advantages of proposed system:

- 1) Provides Trustworthiness.
- 2) Provide Security and integrity to user's data.
- 3) The multiyear validity issue of cloud service certificates is handled by continuous auditing.
- 4) User can control way to protection of data stored on cloud.
- 5) More accurate and easy criteria's are applied for auditing.

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## Proposed system architecture

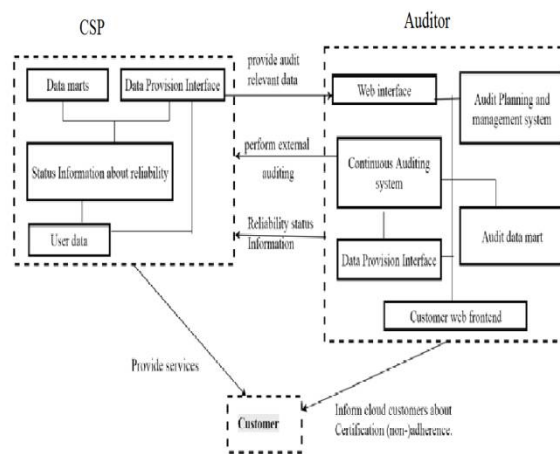


Fig: System Architecture

## IV. CONCLUSION

We have conclude that with the ever-changing cloud environment, data protection issue, security problems, fast update cycles, and the increasing adoption of business-critical applications from cloud service providers demand for highly reliable cloud services. Cloud service certificates offers more trustworthiness but multiyear validity of certificates puts in doubt so continuously auditing such cloud ser-vices can assure a high level of security and reliability to (potential) cloud service adopters. We have proposed online auditing technique with status alert and auditor opinion to customer while choosing the cloud service provider. With our study, a first step to increase trustworthiness of CSC is provided by conceptualizing architecture to continuously audit cloud services.

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