



A NOVEL APPROACH TOWARDS ASSURING PROMISING CONSISTENCY LEVEL IN CLOUD SYSTEM

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ABSTRACT:

The services of cloud system are regarded as distinctive service that involves delivery of data storage as a services. Existing clouds typically controls strong consistency assurances to minute datasets or else present just eventual consistency. To present stable services, cloud service provider will replicate the entire data on several cloud servers that are geographically distributed. We provide consistency as a service approach in which users that compose an audit cloud can make sure regarding the data cloud providing assured consistency level. This approach will consist of large data cloud as well as several minute audit clouds. Consistency of cloud storage not simply determines accuracy but moreover the real price for each transaction. Data cloud is controlled by provider of cloud service, and an audit cloud will hold users that help out on job. Between data cloud as well as audit cloud, service level agreement is engaged, which will demand regarding the provisioning of consistency level of data cloud that has to be provided. A two-level auditing arrangement, which necessitates a loosely synchronized clock intended for ordering functions within an audit cloud, was proposed.

Keywords: *Data storage as a service, Cloud service provider, Two-level auditing, Audit cloud, Consistency as a service, Service level agreement, Synchronized clock.*

1. INTRODUCTION:

Cloud is basically an important system where data is replicated on various servers that are distributed geographically to attain high accessibility. For assuring of the constant access, provider of cloud service will store up the data replicas on various servers that are distributed geographically [1]. The model of data-centric consistency will consider internal state of storage system, that is to say how updates flow all the way through the system and assurance provided by the system regarding the updates. For a customer, it does not matter regarding the storage system internally to contain any stale copies. As long as no out of date data is identified from client's opinion, the customer is pleased. Hence the model of client-centric consistency will focus on the particular requirements of customers. We will provide a model of consistency as a service in which users that compose an audit cloud can make sure regarding the data cloud providing assured consistency level. To provide constant services, cloud service provider will replicate the entire data on several cloud servers that are geographically distributed. In the system, data cloud is supervised by provider of cloud service, and an audit cloud

will hold users that help out on job [2][3]. Among data cloud and the audit cloud, service level agreement is engaged, which will demand regarding the provisioning of consistency level of data cloud that has to be provided. Cloud storage consistency not simply determines accuracy but moreover the real price for each transaction. We suggest a two-level auditing arrangement, which necessitates a loosely synchronized clock intended for ordering functions within an audit cloud.

2. METHODOLOGY:

We introduce consistency as a service in which users that compose an audit cloud can make sure regarding the data cloud providing assured consistency level. Consistency as a service model will consists of large data cloud as well as several minute audit clouds. We permit users in audit cloud to confirm cloud consistency by means of analyzing trace of interactive operations. A two-level auditing arrangement, which necessitates a loosely synchronized clock intended for ordering functions within an audit cloud, was proposed. We do not need global clock between users for entire ordering of operations. A loosely synchronized clock is appropriate in support

of our solution. We need each user to preserve a logical vector in support of partial ordering of operations, and we implement a two-level auditing structure where each user can carry out local auditing separately with a local trace of operations. Local auditing is performed separately by each user with his personal user operation table and at regular intervals, an auditor is chosen from audit cloud. At regular intervals, an auditor is chosen from audit cloud to carry out global auditing by means of a global trace of operations. Global auditing will focus on causal consistency that is carried out by construction of a directed graph. In the consistency as a service system, data cloud is supervised by provider of cloud service, and an audit cloud will hold users that help out on job. Among data cloud and the audit cloud, service level agreement is engaged, which will demand regarding the provisioning of consistency level of data cloud that has to be provided [4]. Considering a situation suppose user X and user Y are performing project by means of a cloud storage service, in which the data is replicated on to five cloud servers. When the novel version of requirement is uploaded to the fourth cloud storage, user X call user Y for downloading of the recent version and

hence causal relationship is recognized between their read. Hence, cloud has to offer causal consistency, which makes sure that user X update is dedicated to all replicas earlier than user Y's read. When cloud provides just eventual consistency, then user Y is authorized to access previous version of requirement analysis from the fifth cloud storage and in this situation, integrated design based on previous version might not convince actual requirements of customers. Cloud storage consistency not simply determines accuracy but moreover the real price for each transaction.

3. AN OVERVIEW OF PROPOSED SYSTEM:

The execution of data cloud is difficult to all users because of virtualization technique hence it is tough for users to prove whether each replica within data cloud is the recent one. A model of consistency as a service in which users that compose an audit cloud can make sure regarding the data cloud providing assured consistency level was provided. This model will consist of large data cloud as well as several minute audit clouds. We permit users in audit cloud to confirm cloud consistency by means of

analyzing trace of interactive operations. Data cloud is supervised by provider of cloud service, and an audit cloud will hold users that help out on job. Among data cloud and the audit cloud, service level agreement is engaged, which will demand regarding the provisioning of consistency level of data cloud that has to be provided. Cloud storage consistency determines accuracy and moreover the real price for each transaction. To provide constant services, cloud service provider will replicate the entire data on several cloud servers that are geographically distributed [5]. An audit cloud includes users that work together on tasks and we believe that each user within the audit cloud is recognized by a distinctive ID. Earlier then outsourcing the job to data cloud, audit cloud as well as data cloud are engaged in service level agreement which stipulates assured level of consistency that must be provided by means of data cloud. The audit cloud should verify whether data cloud go against service level agreement or not, and to compute severity of violations. User will record his operations in user operation table. We require each user to protect a logical vector in support of partial ordering of operations, and we implement a two-level auditing structure where each user can carry

out local auditing separately with a local trace of operations. We do not need global clock between users for entire ordering of operations and at regular intervals, an auditor is chosen from audit cloud to carry out global auditing by means of a global trace of operations. Global auditing will focus on causal consistency that is carried out by construction of a directed graph. Local auditing is performed separately by each user with his personal user operation table and at regular intervals, an auditor is chosen from audit cloud. In this situation, the entire other users will forward their user operation table user operation table to the auditor, which will carry out global auditing by means of global trace of operations [6]. Users will exchange messages subsequent to performing reads or writes, rather than communicating straight away after implementation of each operation. After users finishing the process of communicating, a contributory relationship is made on their operations.

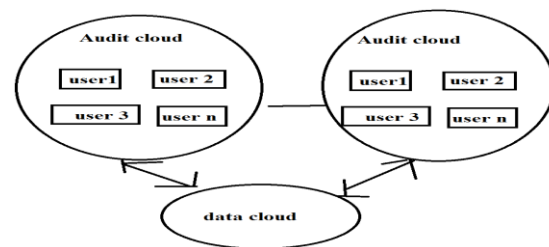


Fig1: Consistency as a service model.

4. CONCLUSION:

A model of consistency as a service was provided in our work in which users that compose an audit cloud can make sure regarding the data cloud providing assured consistency level. This model will consist of large data cloud as well as several minute audit clouds and the data cloud is supervised by provider of cloud service, and an audit cloud will hold users that help out on job. Between data cloud as well as audit cloud, service level agreement is engaged, which will demand regarding the provisioning of consistency level of data cloud that has to be provided. We authorize users within audit cloud to verify cloud consistency by analyzing trace of interactive operations. We require each user to preserve a logical vector in support of partial ordering of operations, and we implement a two-level auditing structure where each user can carry out local auditing separately with a local trace of operations. At usual intervals, an auditor is selected from audit cloud to carry out global auditing by means of a global trace of operations. Two-level auditing arrangement necessitates a loosely synchronized clock intended for ordering functions within an audit cloud. Global auditing will spotlight

on causal consistency that is carried out by construction of a directed graph.

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