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Auditing Consistency among Multicloud: Consistency as a Service

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Abstract: In regular life cloud is most vital part. Presently cloud storage are utilization for business reason the cloud is prevalent because of their tremendous measure of preferences the cloud is versatile we can ready to get to the cloud any-place universally. A cloud service supplier keeps up much duplication and every bit of information is all inclusive circulated on servers. The principle issue of cloud is to handle duplication of information which is too unreasonable to accomplish effective consistency on around the world. .In this paper we demonstrate a novel consistency service model which contain huge volume of datacloud and various review clouds In the Consistency Service model. An data cloud is keep up by Cloud Service Provider (CSP) and the quantity of client (User) constitute gathering and that gathering of client can constitute a review cloud Which can check whether the information cloud gives the legitimate level of consistency or not we recommend the two level auditing structural engineering, two level auditing building design obliges a freely synchronize check in the review cloud. At that point, outline calculations to measure the shared characteristic of infringement measurements, and the esteem's staleness of read measurements. At last, we devise a heuristic auditing strategy (HAS) to uncover however many infringement as could be allowed. Broad investigations were performed utilizing a mix of reenactments and genuine cloud organizations to accept heuristic Auditing Strategy

Keywords: Global Consistency Auditing, Local Consistency Auditing, heuristic Auditing Strategy, Cloud Storage Systems, consistency as a service (CaaS).

1 INTRODUCTION

Cloud computing is only a particular style of computing where everything from computing energy to foundation business applications are given as a service its computing service as opposed to item a few others advantages of cloud is asset provisioning adaptability, adaptability and ease .Some of the cloud company gives the cloud service as per month or yearly basis e.g. Amazon DB , Microsoft Azure Storage DB and so on by using cloud storage services the customer can able to access data store any where anytime by using any device and no need of capital investment on hard ware and access your data any time. The main problem in cloud is to handle replicas it is too costly to achieve strong consistency worldwide. many cloud service provider uses weak consistency like eventual consistency to get good performance and high availability the user can able to see latest update by using ACP principle Availability consistency and partition. The most popular example of eventual consistency is DNS (Domain Name System). Eventual consistency is not remedy for all difficulty for all application e.g. for interactive service the strong consistency is required. Following figure 1 shows all details regarding system:

Suppose Alice and bob are work under cloud storage service project. The data is replicated to 5 server CS1,CS2,CS3,CS4,CS5 respectively .uploaded the latest version of the requirement analysis to CS4 alice call bob to download latest version so here causal relationship is establish between bob s read and alice update. If the Cloud only provides eventual consistency then bob gives the permission to access old version from CS5. So from this we can understand different application has different consistency from following example. 1) Mail server has read your write consistency and monotonic read consistency. 2) The example of causal consistency is social networking services.

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In cloud storage consistency plays important role to determines correctness as well as actual cost/transaction but, here we demonstrates novel consistency service model for this circumstance .this consistency service module contain various little review cloud and expansive information cloud . Cloud service supplier keep up information cloud and review cloud contain a gathering of clients that chipping away at that venture And service level Assention will be shape between review cloud and information cloud .which will choose the amount of will be charged if the information cloud neglected to SLA and what kind of consistency the information cloud ought to give .the usage of information cloud is not unmistakable to all client because of virtualization procedure. it is exceptionally troublesome for client to check whether every copy in information cloud is most up to date one or not . we allow the client in review cloud to check cloud consistency by dissecting the follow intuitive operation .we don't oblige a worldwide clock among all client for aggregate requesting of operation so we utilize approximately synchronized clock for our answer. For fractional request of operation every client keep up coherent vector .so here we create 2 level of Auditing Structure .The two level auditing structure fundamentally contain two auditing

1. Local Auditing
2. Global Auditing

Local Auditing: structure each user can perform local auditing with local trace operation periodically .this auditing focuses on monotonic read and read your write consistency .which can be perform by light-weight online algorithm the local auditing algorithm is online algorithm

Global Auditing: the auditor can be selected from audit cloud .the main works of the auditor is to perform global auditing with global trace operation .this auditing focuses on causal consistency because causal consistency perform by constructing directed graph .the directed acyclic graph is constructed then causal consistency is obtain .Finally we propose analytical auditing strategy which appropriate reads to reveal many unsuccessful result

2. LITERATURE SURVEY

Cloud computing faces a big problem to maintain consistency so here we first discuss consistency of model I distributed systems. Mainly cloud consistency can be classified in two types data centric consistency and cloud centric consistency as shown in figure 1.

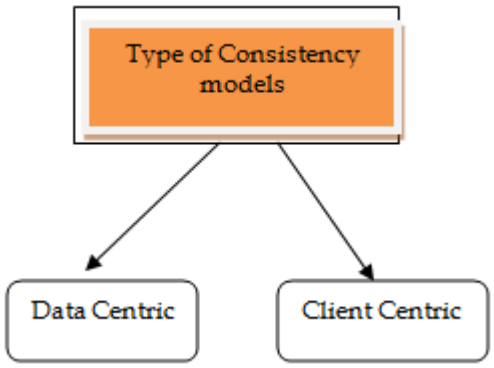

Fig 1.cloud centric consistency

Data Centric consistency: Let us considers the internal state of a storage system. Which checks update flow through the system and what guarantees the system can provide with respect to updates.

Client Centric consistency: This concentrates on specifies customer requirement, i.e., the way to customers observe data updates. Their work also denotes consistency from strict consistency to weak consistency. Maximum consistency denotes maximum cost and reduced availability The consistency requirements depending on actual availability of the data and the authors provide techniques which make the system dynamically adapt to the consistency level by tracing the state of the data. Ref. [1]. from the users' point of view we check the level of consistency provided by cloud service provider .existing solution can be derived into 2 types benchmark-based verifications [5]– [8]and traced base verification[2], [4]. Trace-based verifications contain three consistency semantics:, Lamport who propose these 3 semantic regularity, atomicity and safety If a register is safe if read that is not concurrent with any write returns the value of the most recent write, and a read that is equal to a write can return any value If register is regular read that is not concurrent with any write returns the value of the most recent write, and a read that is concurrent with a write returns the value of the most recent write, or the value of the concurrent write. A register is atomic if every read returns the value of the most recent write. Misra [6] is the first to present an algorithm for checking whether the trace on a read/write register is atomic. He Ref. [2] proposed offline algorithms for verifying whether a key-value storage system has regular register, atomic regis-

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ter and safe register properties by constructing a directed graph. Ref. [4]he proposed an online verification algorithm by using the GK algorithm [7], and various metrics used to quantify the severity of u n s u c c e s s f u l r e s u l t . The main drawback of the existing trace-based verifications is that a global clock is required among all users. Our result belongs to trace-based verifications .To overcome this drawback so we used loosely synchronize clock We illustrate the consistency service model. Then, we describe the structure of the user operation table (UOT), with which each user records his operations. Finally, we provide a two-level auditing structure and related definitions.

A) Consistency Service Model: Consistency service model contain data cloud and multiple audit cloud as shown in fig2

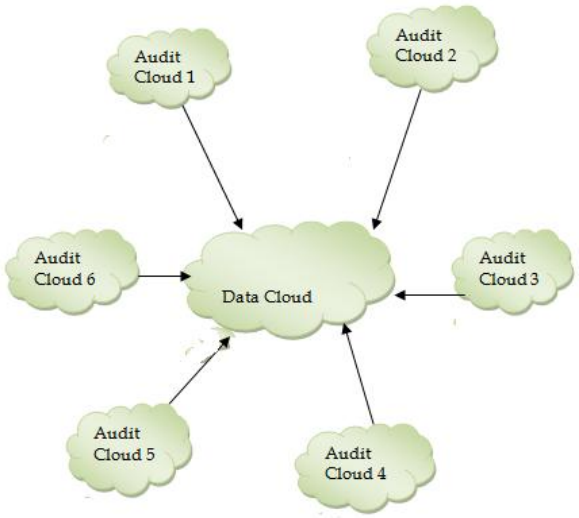

Fig 2. Consistency as a service model.

As shown in figure 2 the Cloud Service Provider maintain Data cloud .data cloud is key value data storage system hence unique key is assign to each piece of data ,cloud service provider maintain data cloud and audit cloud contain a group of users that working on that project And service level Agreement will be form between audit cloud and data cloud .which will decide how much will be charged if the data cloud failed to SLA and what type of consistency the data cloud should provide .the implementation of data cloud is not visible to all user due to virtualization technique. it is very difficult for user to check whether each replica in data cloud is newest one or not . we permit the user in audit cloud to check cloud consistency by analyzing the trace interactive operation .we don't require a global clock among all user for total ordering of operation so we use loosely synchronized clock for our solution. For partial order of operation each user maintain logical vector .so here we develop 2 level of auditing Structure .The two level auditing structure basically contain 2 auditing.

B) User Operation Table(UOT) : Every user maintains a User Operation Table to record logical operation elements logical vector ,physical vector as well as operation are inserted into user operation table. Every operation has write operation or read operation.

Update process is given below: Initially all clocks are zero for two vector .the users continuously rises his own physical clock in physical vector as sell as rises his one logical clock in logical vector ,by one the moment event take place . Two vectors will be sent with message, as soon as user receive message he modernize every elements in the vector with maximum value in his own vector along with value in receive vector.

Monotonic read Consistency: If any process read the value of data X as well as successive read on data X then same value or more recent value is obtain. Read your **Write Consistency:** If write of process on data X will be seen by successive reads on data X by the same process. **Causal Consistency:** Write which are causally related then it must be seen to all processes in the same arrangement concurrent writes may be seen in different arrangement and different machines.

3. HEURISTIC AUDITING STRATEGY

From the auditing process in the CaaS model, we observe that only reads can reveal violations by their values. Therefore, the basic idea of our heuristic auditing strategy (HAS) is to add appropriate reads for revealing as many violations as possible. We call these additional reads auditing reads. From the auditing process in the maintaining Consistency model, we observe that only reads can review violations by their values. Therefore, the basic theme of our heuristic auditing strategy (HAS) is to insert appropriate reads for reviewing as many violations as possible. We call these extra reads auditing reads. AAS divides physical time into L time slices, where l time slices constitute an interval. Each Time slice is associated with a state, which can be marked with either normal or abnormal. A normal state means that there is no consistency violation, and an abnormal state means that there is one violation in this time slice.

SELECTION OF AUDITOR

Thus auditor Can be easily selected from the auditor cloud in which any user has ability to becoming the auditor with same chances though various user has various level chances in terms of selection of auditor the various possibility to select an auditor is given below:
we design an Identification ring for a team of users in which every node is assigned with a node Identification and every user is indicated by a Set of nodes present in the ring. E.g. if the no of nodes in the ring is n. To select an auditor, we not only choose randomly generate a number r, but also user who is denoted by the node with an Identification of in the ring to be the auditor.

4. CONCLUSION

In this paper our framework keeps up consistency service model and additionally couples of levels of auditing structure which helps the client to checks whether CSP gives legitimate consistency or not with help of specific infringement if present. Client can comprehend which Cloud Service provider privileges from the different other Cloud service providers. The Consistency is kept up by Neighborhood Consistency Auditing Cloud and Global Consistency Auditing Cloud.

REFERENCES

[1] S. Esteves, J. Silva, and L. Veiga, "Quality-ofservice for consistency of data geo-replication in cloud computing," Euro-Par 2012 Parallel Processing, vol. 7484, 2012.
[2] E. Anderson, X. Li, M. Shah, J. Tucek, and J. Wylie, "What consistency does your key-value store actually provide," in Proc. 2010 USENIX HotDep.
[3]C. Fidge, Timestamps in message-passing systems that preserve the partial ordering," in Proc. 1988 ACSC.
[4] W. Golab, X. Li, and M. Shah, "Analyzing consistency properties for fun and profit," in Proc. 2011 ACM PODC
[5] H. Wada, A. Fekete, L. Zhao, K. Lee, and A. Liu, "Data consistency properties and the trade-offs in commercial Cloud storages: the consumers' perspective," in Proc.2011 CIDR.
[6] J. Misra, "Axioms for memory access in asynchronous hardware systems," ACM Trans. Programming Languages and Systems, vol. 8, no. 1, 1986.
[7] P. Gibbons and E. Korach, "Testing shared memories,"SIAM J. Computing, vol. 26, no. 4, 1997
[8] D. Kossmann, T. Kraska, and S. Loesing, "An evaluation of alternative architectures for transaction processing in the cloud," in Proc. 2010 ACM SIGMO.
[9]Yogesh Chimate et al," Review on preserving caas mode"l, Vol. 5 (6)