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Efficient Resource Allocation And Avoid Traffic Redundancy Using Chunking And Indexing

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ABSTRACT: Cloud computing is used to reduce the traffic. It will be used to avoid redundancy. So that It has been improved the server efficiency and reduce the workload. Previously they used Rabin fingerprinting scheme. By using this scheme server will not work efficiently. The server was used for uploading, downloading, accessing the data in single server. The traffic redundancy was occurred. So, here lightweight chunking can be used for avoiding the traffic redundancy. And more than one server can be used. So that I can improve the server efficiency and reduce the workload. This can applicable in very large area. It support all TCP based applications and network devices. Analyze prediction for cloud users, using traffic traces from various sources. Data transfer costs is an important issue when trying to minimize costs Consequently, cloud customers, applying a judicious use of the cloud's resources, are motivated to use various traffic reduction techniques, in particular traffic redundancy elimination (TRE), for reducing bandwidth costs. I propose a new computationally lightweight chunking scheme. Lightweight chunking is a new alternative for Rabin fingerprinting traditionally used by RE applications. And Indexing is using for identifying the relevant data. For that, Encryption and decryption is using. By using this technique easily can identify the redundancy.

KEYWORDS*:* Traffic Redundancy Elimination, Traffic Engineering, Network Optimization.

I. INTRODUCTION

Cloud computing is a forthcoming revolution in information technology (IT) industry because of its performance, accessibility, low cost and many other luxuries. It is an approach to maximize the capacity or step up capabilities vigorously without investing in new infrastructure, nurturing new personnel or licensing new software. The cloud computing offers its customers an economical and convenient pay-as-you-go service model, known also as usage-based pricing.

Redundancy Elimination (RE), or identifying and removing repeated content from network transfers, has been used with great success for improving network performance on enterprise access links. Recently, there is growing interest for supporting RE as a network-wide service. Such a network-wide RE service benefits ISPs by reducing link loads and increasing the effective network capacity to better accommodate the increasing number of bandwidth-intensive applications. Further, a network wide RE service democratizes the benefits of RE to all end-to-end traffic and improves application performance by increasing throughput and reducing latencies. Redundancy Elimination (RE) for network transfers has gained a lot of traction in recent years. RE is widely used by data centers and enterprise networks to improve their effective network capacity, to reduce their wide-area footprint, and to improve end-to-end application performance. The importance of RE is reflected in the emergence of a huge market for RE solutions.

Recently, a variety of cloud storage services have emerged and provided different levels of storage abstractions. Web applications, such as Google Docs and Adobe Buzzword, offer not only various applications but also online storage to support file upload and backup. However, they tightly bind cloud storage with specific applications, and have to convert

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existing documents into certain internal formats before storing them. Besides potential compatibility issues, such storage services often have limited functionalities compared with general-purpose file systems. Migration between different service providers also presents a challenge.

If the network has long latency, remote login is particularly frustrating as interactive applications are slow in responding to user input. Worse yet, many graphical applications, such as figure editors and postscript previewers, consume too much bandwidth to run practically over the wide-area network. To reduce its bandwidth requirements, LBFS exploits cross-file similarities. Files written out by applications often contain a number of segments in common with other files or previous versions of the same file.

II. RELATED WORK AND EXISTING MODEL

Rabin fingerprinting was used. So traffic redundancy was occurred. Server was not work effectively. The server was used for uploading, downloading, accessing the data in single server. In this process, server acts as to store all the data and retrieving the data. It does not identify the repeated content. Many users can access the same data. So it will not benefit. Cloud is mainly used for reducing the cost as well as bandwidth. In this process, cost and bandwidth will be high. It will not check the data properly. If redundancy occurs, it does not give any predictions. It will identify and check only with the current data. Cloud providers cannot benefit from a technology whose goal is to reduce customer bandwidth bills, and thus are not likely to invest in one. The rise of "on-demand" work spaces, meeting rooms, and work-from-home solutions detaches the workers from their offices. In such a dynamic work environment, fixed-point solutions that require a client-side and a server-side middle-box pair become ineffective.

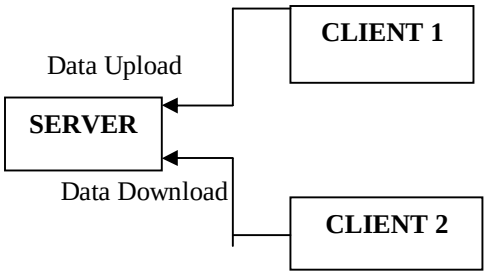

Fig 2.1: Existing Model

Problem statements

In existing the data might be lost due to traffic. Redundancy does not identifying end to end traffic systems. Middle box pair become ineffective. To maintain end to end synchronization is difficult. Bandwidth and cost is high due to the traffic redundancy.

III. PROPOSED MODEL

Lightweight chunking scheme is used. By using this scheme traffic will be completely reduced. If redundancy will occur it will predict and notify previously. SHA 1 signature is using for identifying the chunk data.SHA-1 is a cryptographic hash function designed by the United States National Security Agency and is a U.S. It will give the prediction to the end user. This will be used for the security purpose.

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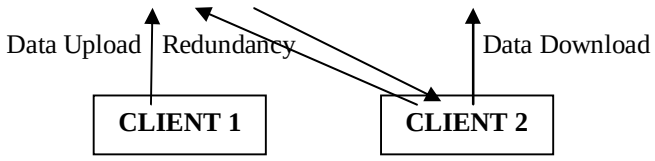

Fig 3.1:Proposed Model

Secure hash algorithm

It will be used for the security and authentication purpose. Encryption and decryption process will be performed well. There is four authentication methods are using. That are

(i) Masquerade – Insertion of message from fraudulent source.
(ii) Content Modification – Changing content of message.
(iii) Sequence Modification – Insertion, deletion and reordering sequence.
(iv) Timing Modification – Replaying valid sessions.

The above techniques has been used.

Chunking scheme

It is used to identify the previously received data with the newly received data. All information are kept locally to the meta data. This will be used for network resources. It can be used to split the data and then send the data to the client. Chunking is used to avoid the redundancy. Traffic will be occur due the data lost. For example in Google map, 5 users can use at the same time means traffic will be occur because all can access at the same time. So these kind of traffic will be reduced with the help of chunking. This will be applicable in many organizations to sharing the resources. It will be much faster than the Rabin fingerprinting. All the data are stored in the receiver side termed as" Chunk store". When one box detects chunks of data that match entries in its cache (by computing "fingerprints" of incoming data and matching them against cached data), it encodes matches using tokens. The box at the far end reconstructs original data using its own cache and the tokens. This approach has seen increasing deployment in "WAN optimizers". LBFS file server divides the files it stores into chunks and indexes the chunksby hash value. The LBFS client similarly indexes a large persistent file cache.

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SYSTEM DESIGN

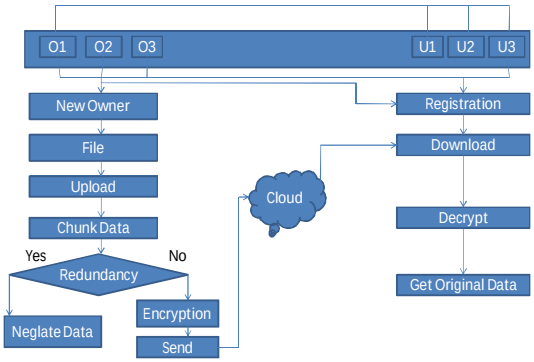

Fig 3.2:System Design

Many owner can access the many users. Owner can upload the file or any data. Then the particular data will be check for the redundancy. If redundancy may occur omit or neglate the particular data with the help of chunking by using the SHA-1 signature. If there is no redundancy occur, encrypt the data and send it to the cloud. Then the user can download that data(if they needed) and decrypt the data. Then the user may get the original data. Likewise this process will be continue. This can be used to avoid the traffic redundancy. By using the chunking, Easy to verify the hints and easy to compute the fuction.

IV.CONCLUSION

I found the problem's are, server was not work efficiently. Because only one server was used and same server was acts as uploading, downloading, accessing the similar data. So that, traffic was occurred. Redundancy may be possible due to the traffic. For that I used Traffic Redundancy Elimination(TRE) to recover the traffic as well as avoid the redundancy. More than one server is using for uploading, downloading process to reduce the workload and effective manner. If more than one similar data is send, before itself it will be predict the data. So bandwidth will also be reduced. So that we can improve the server efficiency. And cost will be reduced. This was applicable in large area to sharing the resources. This can be implemented in TCP based applications.

V. FUTURE ENHANCEMENT

Indexing will be used for security purpose. Encryption will be used for sender side and decryption is used for receiver side. This will also be used for reduce the cost and bandwidth in cloud computing.

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