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ANONYMOUS DATA SHARING IN CLOUD USING PACK ALGORITHM

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Abstract - *The paper focuses on implementing the system which will make data transmission server more secure. The author aims to implement system which will also reduce redundancy in data transmission. This means the frequently requested data from the server will be identified and served by the middleware instead of the server itself. This means server will be offloaded from this redundant task and will only respond to the unique queries. This project provides traffic redundancy solution which helps to eliminate redundant traffic from the network. In more technical words it is also called as the predictive acknowledgement for reducing traffic in the system. The algorithm implemented in this project helps server to separate unique and redundant request for the data .It helps to reduce cost for the cloud servers thus system should be integrated in the cloud based systems.*

***Key Words*: traffic - redundancy, chunk, predictive acknowledgement, cloud.**

1. INTRODUCTION

In this era of information data is the real asset of any institution. We come to know that the data privacy is real concern now days. Keeping this in mind this system is built in such a way that the sender will be kept hidden from the receiver. The server won't be traced by the receiver because the data from server will not be directly communicating with the receiver [1]. The sender will push data to the middleware's virtual queue. Receiver will pull the data from this virtual queue. In simple words this is sharing the data while maintaining anonymity. Even if intruder tries to trace [2] the sender he will be only hitting on the middleware's virtual location which will do no harm to our server.

Let me introduce you to the next feature of the project which is eliminating redundancy from the network. The process of redundancy implies implementing a artificial decision maker which will think about whether this request is unique or redundant and will push the data accordingly to the server. Recently the all the web based applications are being deployed to the cloud platform for performance and scaling benefits. But the service providers which provide service using cloud infrastructure have to pay the huge bills for the data consumption done by users. So to reduce the cost of providing the service we analysed the traffic of public network and learned the following facts

In the public network where people use wifi/public internet it certainly degrades the performance when people use more data intensive applications like video streaming or email application. The network congestion[10] occurs due to frequently watching same videos on the internet or frequently downloading same attachment from the mail servers like Gmail, yahoo etc.

Current infrastructures don't identify redundant and non redundant data request so it does not bother to partially or fully cache such data to client side to improve performance.

2. IMPLEMENTATION

This project blends the two features in the environment secure data sharing and reducing the traffic redundancy. Let us discuss how we can maintain anonymity well in general scenarios the server communicates with client and serves the data asked by the user. We have introduced the middle layer between client and server. This middleware will communicate with both client as well as receiver. This is done by implementing the java messaging system (JMS) it includes components publisher subscriber and queue.

2.1. Publisher:

Here middleware [13] system acts as the publisher it will be programmed[5] to work in sync with the server. Whenever server sends some data the publisher will listen for the incoming data capture it and put it across the queue.

2.2. Receiver:

The receiver will be provided with logical connection endpoint by the JMS provider. Receiver actively listens for the data asynchronously. As soon as the new data is available in the system it takes off the data.

2.3. JMS Infrastructure:

Create the logical destination and make it accessible to both client and the server.
Make sure the connection is durable and available all the time. Connection should be persistent.

2.4. TRE implementation using PACK

How to implement prediction[3] based cloud bandwidth reduction system for the cloud infrastructure. Before this systems used to communicate with the huge exchange of SYN-ACK packets. Instead we will use selective SYN-ACK[12]. When transmitting the data packets these packets will be

grouped into chunks [8] and stored in the sender buffer and then sent to the client. These chunks will have the chunk begin and end markers.

2.5. Algorithm

2.5.1. For sender:

1. Calculate the data size.
2. Pass data to chunkgenerator module.
3. Chunkgenerator will generate N chunks with each

chunk having START and END.

4.for i=0 to n step 1
5.sendChunk(chunkStore.get(i));
6.Send chunksequence and SYN.
6.END

2.5.2. For Receiver:

1.Receiver chunks
2.For i=0 to n{
3.ReceiveChunk()
4.Inspect chunk START and END.
5.Take off the payload of packets.
6.while not MSG_END
7.repeat step2 to step6.
8.if MSG_END}
9.END.

3. EVALUATION

Proposed algorithm harness the combination if both the algorithms it uses pack along with anonymous data sharing.

3.1. Sender Dominated system: In this system the sender will play the role of computation of chunking the data and delivering the user. Checking whether the data request was unique or not. This makes server occupied with computational task.

3.2. Receiver Dominated System: The receiver play role of accountant they took off the computational task. Provided that the system which acts as receiver should be with enough computational power.

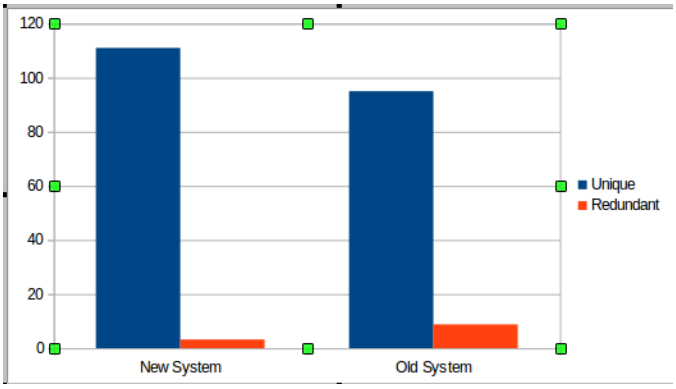

Fig 1: Comparison of old and new system

3.3. Synchronization between sender and receiver

When the synchronization between the two participating entities exists it eliminates the need of the three-way handshake. It eliminates unnecessary overhead of verifying the sender and receiver's identity [9].

4. Conclusion

We learned that how redundant traffic may slow down your network. Thus eliminating this traffic would improve network performance a lot.. So PACK can eliminate the traffic based on the type of content being sent by the sender. Cloud based solution can integrate end to end TRE [9] solutions to eliminate redundant traffic.

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