Computer Networks A3

Kethavath Ajay Kumar, 2021CS11211 and Voora Akash, 2021CS10104

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1 Introduction

1.1 Algorithm:

1. We Constructed a reset request message send reset request and sends it to the server using the UDP socket.
2. It receives a response from the server and extracts the data size.
3. A function findOffset is defined, which extracts the offset from a given string.
4. we Initialized several variables, including max chunk size, penalty, start time, and more to manage data retrieval and processing.
5. Now enters a loop to request data from the server in bursts until all data is received(the loop terminates when all data is received).
6. It sends requests for data chunks in bursts and waits for responses. The burst size may dynamically change based on successful or unsuccessful requests.

7.we increase the burst size by 1, if the requests sent and data chunks received are same, otherwise we reduce it by half.

8. It tracks received data and offsets in data hash(hash table) and offset numbers received in a set
9. After data retrieval, we check for any missing offsets and attempts to retrieve them in a loop.
10. Now we calculate the MD5 hash of the received data and sends a submission request to the server.
11. Finally, close the client socket and print the response from the server.

Burst size vs Time

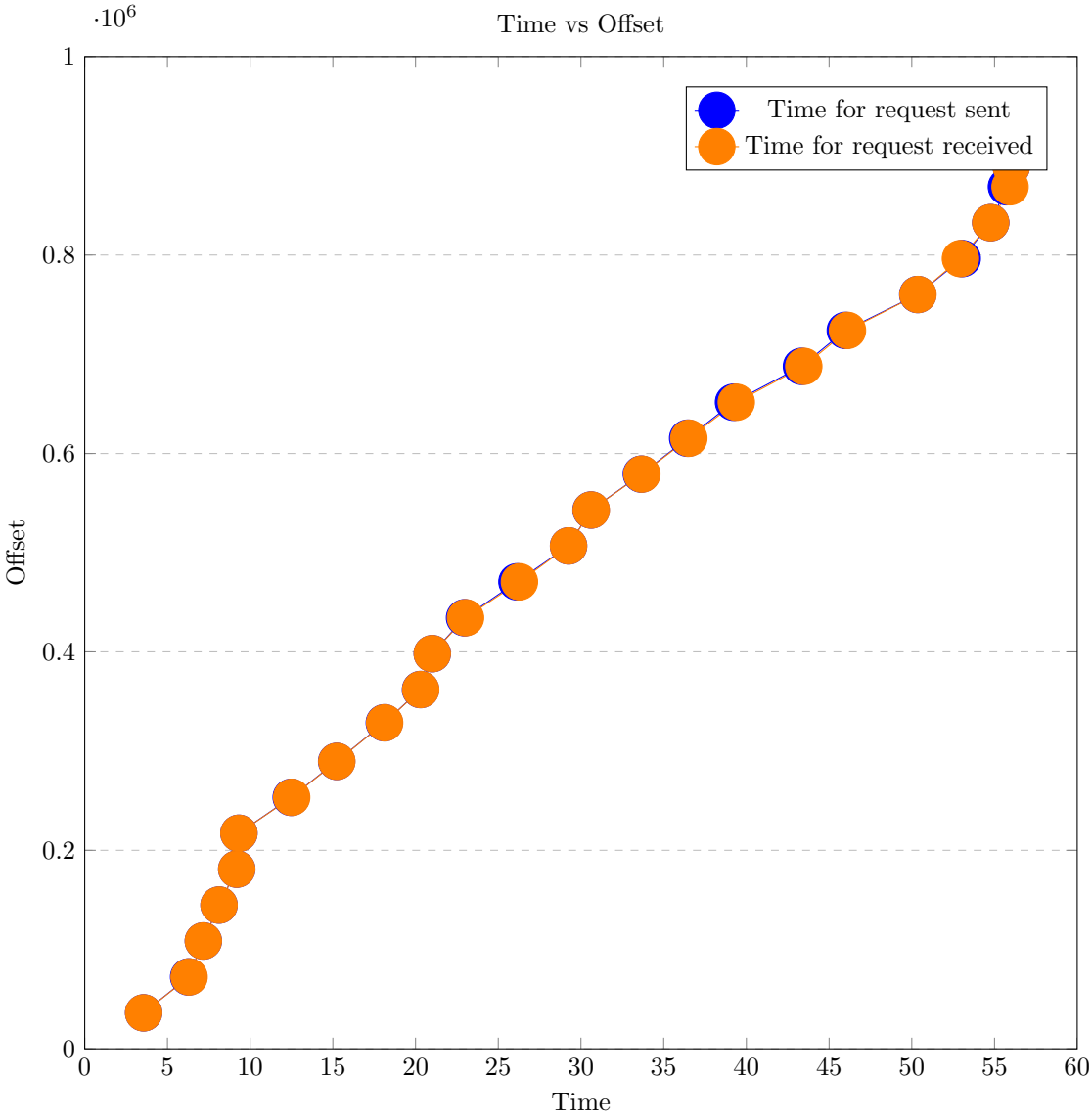

Figure 1: Time vs Offset

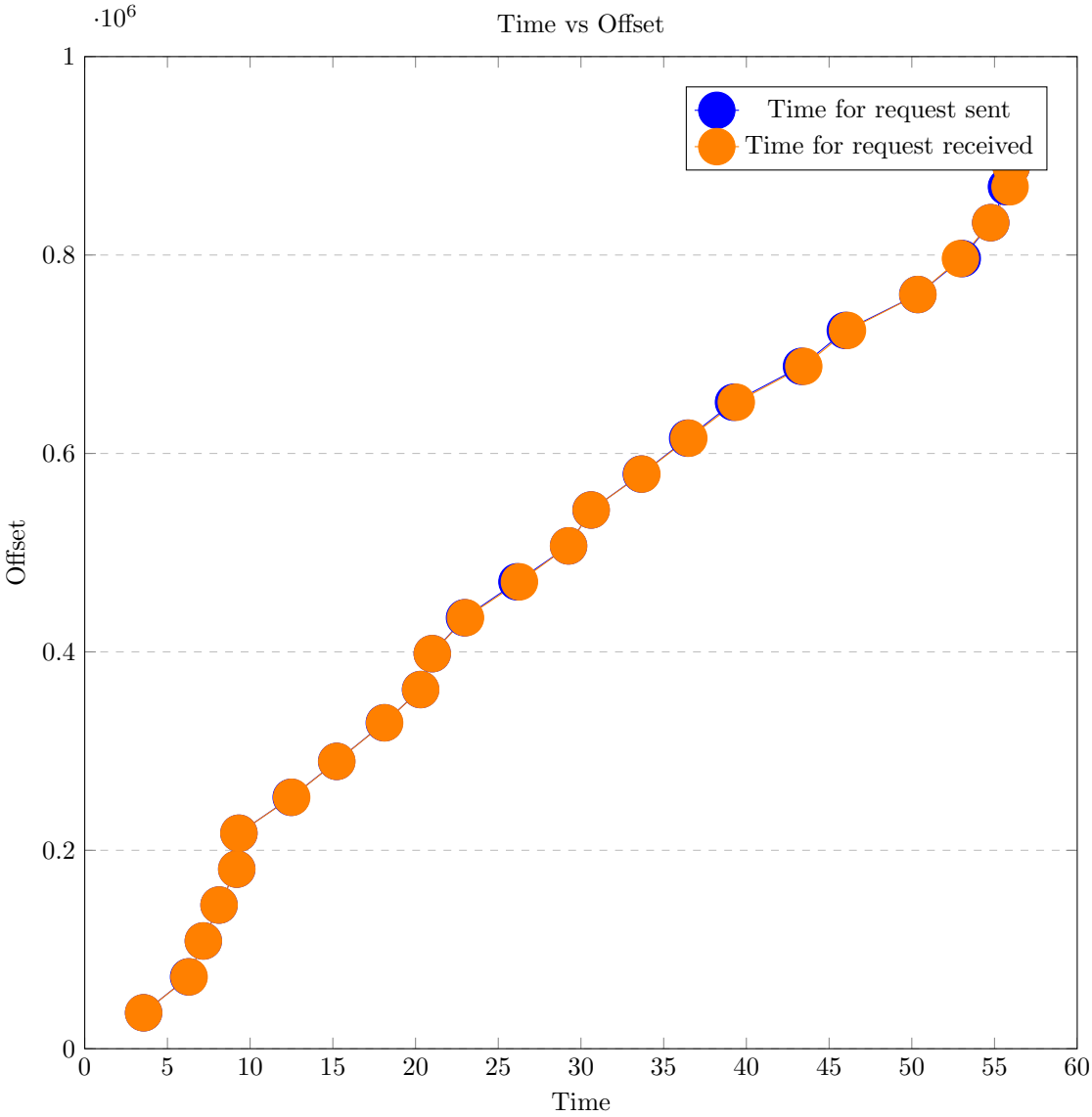

Figure 2: Time vs Offset