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Rerouting Based on Receiver Feedback in Real Time Streaming

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Abstract- This paper discusses a method which reroutes based on receiver feedback. Using this approach the receiver's feedback travels upstream path whenever there is a drop in quality. The associated routers measure its own performance with respect to the quality of service received. It will re-iterate until the problematic router is detected. Finally it has to reroute.

Keywords- *receiver feedback, QoS, router, upstream path, reroute.*

1. Introduction

Real Time streaming is a technique for transferring data so that it can be processed as a steady and continuous stream. Streaming technologies are becoming increasingly important with the growth of the Internet because most users do not have fast enough access to download large multimedia files quickly. With streaming, the client browser or plug-in can start displaying the data before the entire file has been transmitted. Streaming media is constantly received by and presented to an end-user (receiver).Here we are going to measure the quality of service (QoS) from the receiver's end. If there is deterioration, the receiver will send a feedback. The receiver's feedback travels upstream path. The intermediate routers on getting the feedback will try to figure out the problem. They are going to measure their own performances. Once the problematic router is identified the rerouting will take place.

2. Proposed Method

In our proposed method we have designed an algorithm which reroutes based on receiver feedback. The steps are as follows:-

Step1:Receiver checks quality. It measures its own performance with respect to quality of service (QoS).

Step2:If there is deviation from the desired quality then it sends a message to the immediate router. If there is no deviation from the desired quality then it would repeat step1.

Step3:The router measures its own performance with respect to quality of service.

Step 4:The router sends either a Type-I message or a

Type-II message, but not both simultaneously.

It sends a Type-I message if it is underperforming due to network jamming, it asks the immediate router to reroute it and then go back to step 1.When this is not the case it sends a Type –II message. This indicates that the router is performing as per the requirement. The message travels upstream path and goes to the next router. After that Step3 is repeated.

3. A Graphical Case Study

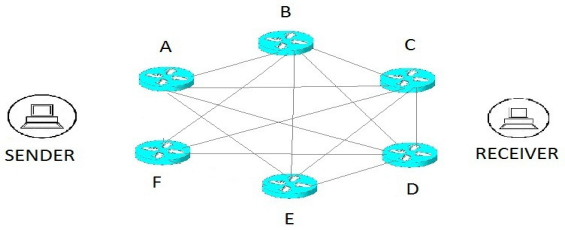

Fig. 1: Sender will now send the data.

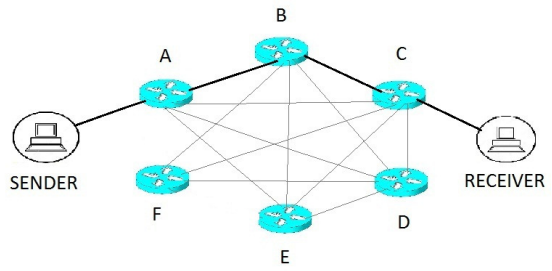

Fig. 2: Sender sends the data to the receiver.

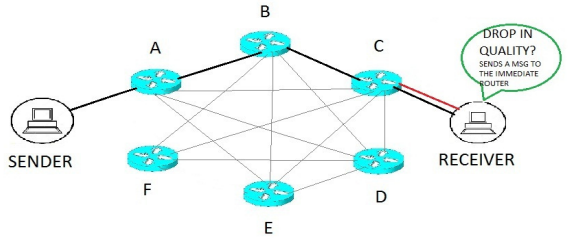

Fig 3: The receiver measures the QOS. If there is a drop in quality it sends a message to its immediate router.

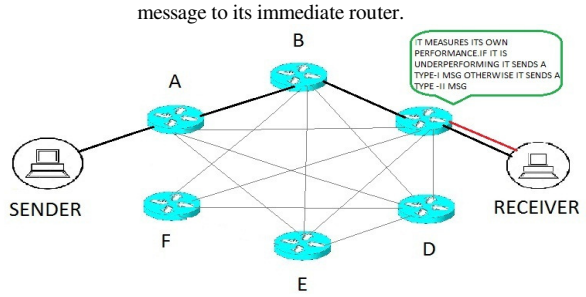

Fig 4: On getting feedback the router tries to figure out the problem.

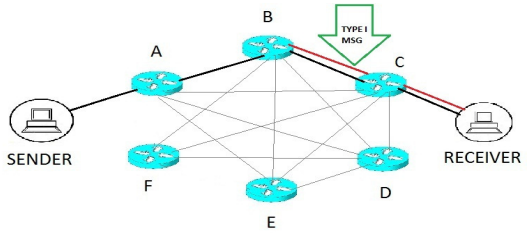

Fig 5: It sends a type-I message.

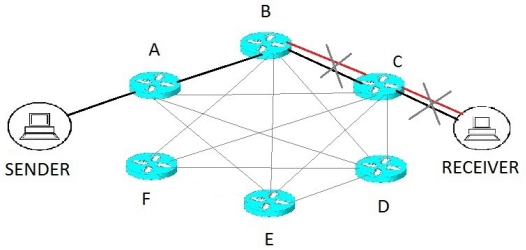

Fig 6: Router B discards the old path and tries to reroute.

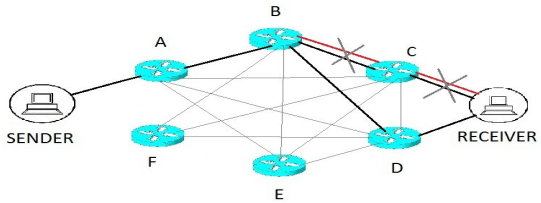

Fig 7: Router selects a different path.

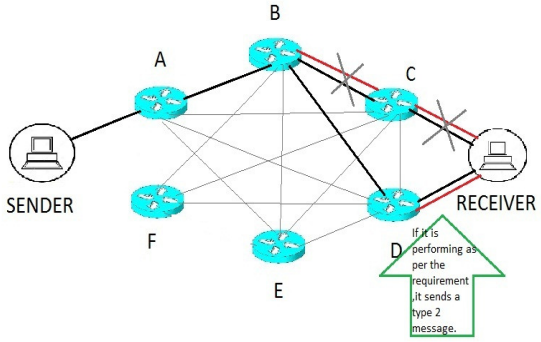

Fig 8: Router D sends a type-II message.

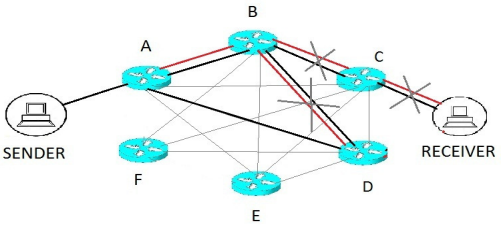

Fig 9: Router A reroutes.

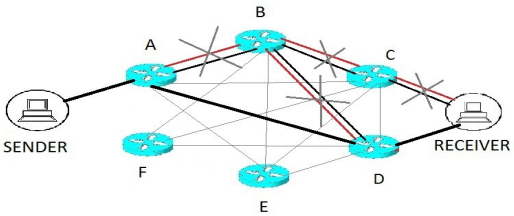

Fig. 10 Final Path after A reroutes.

4. Conclusions

Our proposed method will help to enhance video streaming quality by detecting the problematic routers. It will also help in rerouting based on receiver feedback.

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