instead of an abrupt switching. Hence, the paper propose a QoE-aware quality adaptation algorithm for DASH based findings. Finally, it integrate both network measurement and the QoE-aware quality adaptation into a comprehensive DASH system. QDASH consists of two building blocks 1)QDASH-abw 2)QDASH-qoe.

QDASH-abw measures the network available bandwidth, and QDASH-qoe determines the video quality levels. These two modules can be integrated into existing DASH systems, while the modifications to the systems are kept to minimum. QDASH is designed for streaming H.264/AVC video clips, and aims at immediate deployment to current systems. As part of the investigation for optimal streaming strategy for DASH the paper named "Adaptive scalable video streaming in wireless networks,"[3] introduced a rate adaptation algorithm for video streaming in wireless network.Dynamic Adaptive Streaming over HTTP (DASH) which extends the traditional HTTP streaming with an adaptive component addressing the issue of varying bandwidth conditions that users are facing in networks based on the Internet Protocol(IP). Paper [5] **"A Proxy Effect Analysis and Fair Adaptation Algorithm for Multiple Competing Dynamic Adaptive Streaming over Http Clients**" concentrates on the negative effects introduced when multiple clients are competing for a bottleneck and how proxies are influencing this bandwidth competition. The clients request individual portions of the content based on the available bandwidth which is calculated using throughput estimations. A consequence of this requesting scheme is that only some parts of the content are stored on proxy servers, which are intercepting the connection between the client and the content server. This uncontrolled distribution of the content influences the adaptation process that assumes that the measured throughput is the throughput to the content server. The impact of this falsified throughput estimation could be tremendous and leads to a wrong adaptation decision which may impact the Quality of Experience (QoE) at the client. fair adaptation scheme (FAS) aims to address the problem identified in Section 3. Our first and probably simplest approach to decrease the frequent switching and as a consequence the negative effects, that could be caused due to that switching, is an adaptation logic with an exponential backoff. This approach decreases the number of switch up points if a switch down occurs. But this technique does not consider whether a bandwidth fluctuation is self-caused or networkcaused.

This paper named **"Using HTTP Pipelining to Improve Progressive Download over Multiple Heterogeneous Interfaces"[5]**authorD. Kaspar, present an improved version that utilizes HTTP's capability of request pipelining in combination with range retrieval requests. The use of very small segments no longer impairs the efficiency of throughput aggregation, which additionally makes the solution robust against link variances and agnostic to network heterogeneity. Major hurdle in the deployment of a multilink solution is the lack of server-side support. Although there exist suggested modifications to TCP standard transport protocols are unable to provide host-base aggregation of individual flows. Thus, a common approach is to provide specialized libraries for transparent partition of application-layer data into multiple independent transport streams. However, the implementation of such middleware requires software modifications to all involved clients and servers. In order to provide easy deployment and interoperability with existing server infrastructure, paper proposed a purely client-based solution for progressivelydownloading a single large file over multiple interfaces. HTTP pipelining is a method that "allows a client to make multiple requests without waiting for each response, allowing a single TCP connection to be used much more efficiently, with much lower elapsed time, in the absence of pipelining each range retrieval request must be sequentially handled by the server before the client can send the next request. Thus, for each request, an average time overhead of one round-trip time is incurred. For a large number of small file segments, this overhead significantly impairs the throughput of high-latency connections

Another paper named "**Quality-Adaptive Scheduling for Live Streaming over Multiple Access Networks"**[6] focus on achieving smooth and quality-adaptive streaming of live video. Paper present a client-side scheduler that retrieves segments of several video encodings over heterogeneous network interfaces simultaneously. By extending the DAVVI streaming platform with support for multi homing, the proposed scheduler's performance is experimentally evaluated. The results show that the scheduler reduces the video interruptions and achieves a higher and more stable average quality over multiple, truly heterogeneous wireless interfaces. This paper introduces an adaptive, pull-based scheduler that achieves smooth playback by scheduling requests for video segments of different quality levels over multiple interfaces simultaneously. Results show that the combined operation of multiple interfaces significantly enhances the quality of live video streaming. Even in a truly heterogeneous environment with WLAN and HSDPA links, the presented scheduler achieves an increased video quality and reduces playback interrupts.

"**Using Bandwidth Aggregation To Improve The Performance Of Quality-Adaptive Streaming**",Paper [7]focused on bandwidth aggregation on host multi homed devices. Even though bandwidth aggregation has been a research field for several years, the related works have failed to consider the challenges present in real world networks properly, or does not apply to scenarios where a device is connected to different heterogeneous networks. In order to solve the deployment challenges and enable the use of multiple links in a way that works in a real-world network environment, have created a platform-independent framework, called MULTI. MULTI was used as the foundation for designing transparent (to the applications) and application-specific bandwidth aggregation techniques. MULTI works in the presence of Network Address Translation (NAT), automatically detects and configures the device based on changes in link state, and notifies the application(s) of any changes. The application-specific bandwidth aggregation technique presented in this paper was optimized for and evaluated with quality-adaptive video streaming. The technique was evaluated with different types of streaming in both a controlled network environment and real-world networks. Adding a second link gave a significant increase in both video and playback quality. However, the technique is not limited to video streaming and can be used

to improve the performance of several, common application types.

5. Proposed Approach

Dynamic Adaptive Streaming over UDP(DASU)with multiple link is a technique used for a real time Online video Streaming for mobile users. To avoid playback interruption and achieve better smoothness and quality the paper proposed a rate adaptation algorithm which takes several future steps into consideration. It is very challenging to provide high quality video streaming services for mobile users consistently. It is a promising trend to use multiple wireless network interfaces with different wireless communication techniques for mobile devices. For example, smart phones and tablets are usually equipped with cellular, Wi-Fi and Bluetooth interfaces. Utilizing multiple links simultaneously can improve video streaming in several aspects: the aggregated higher bandwidth can support video of higher bit rate and also when one wireless link suffers poor link quality or congestion, the others can compensate for it.

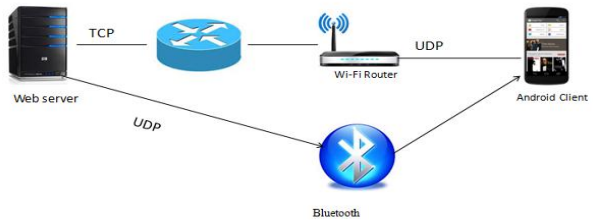

Figure 1: Architectural design

RTAA is a multiple wireless access protocol, connecting one mobile with a web server through multiple connections. In this work it creates a new protocol to send data through the network by UDP. For this server has number of data's and store with Verity of size and it can be downloadable by configuration varying mobiles and laptop's through internet. For getting videos through mobile it make proper connection and also registering multiple channels for transmit data over that connection. Making connection and transmitting through those channel. When all the transmitting is completed the records will be save. Making Evaluation with respect to connection delay, starting delay, packet transmitting etc.

DASU with multiple links is a live video streaming model which is capable for providing high quality video with a small startup delay. For this, paper introduces a rate adaptive algorithm which efficiently works with the varying bandwidth network conditions. It is a promising trend to use multiple wireless network interfaces with different wireless communication techniques for mobile devices. Smart phones and tablets are usually equipped with cellular, Wi-Fi and Bluetooth interfaces, here this work utilizing Wi-Fi and Bluetooth as network links. Its very complex to implement real system because no any android phone which use multiple link at a time currently. So the simulation model contains a Server node which provides the requested video as stream and an Android phone as a client node. There is another node which acts as a intermediary router in Wi-Fi link between Server and Client. User Datagram protocol (UDP) and TCP/FTP protocols are used for the efficient communication between the Server and Client. When the client node send UDP request to the server through the Bluetooth link, server identifies occurrences of two links. Server will provide response to the client through Bluetooth link in small delay and start sending packets. After a short time the intermediary node will make a hand shake using TCP with Server. Connecting Server to Client by same UDP will generate problem ,So after the handshaking server start sending packets to the node and the node will use UDP to send the packets to the destination through Wi-Fi link.The Aggregated band width can support video with high bit rate and when one link suffer poor link Quality the other can compensate for it

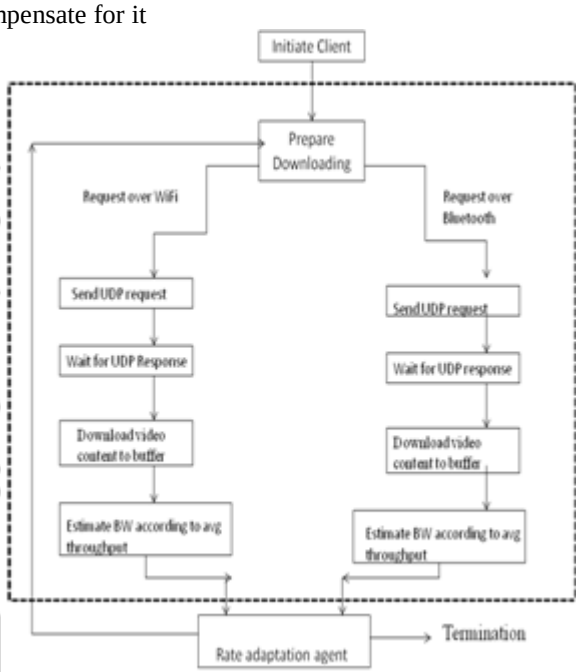

Figure 2: Architectural flow diagram of DASU

6. Algorithm

The proposed algorithm works with the following steps;
Step 1: Initiate Client Request by connecting to the Server with information about multiple connection links
Step 2: Server Receives Request and identifies the occurrences of two links
Step 3: Server response with Stream prepared message and start sending video packets
Step 3.1: After making connection the data send over the direct connection defined protocol and after that it makes data transmission through other connection
Step 3.2: Multiple connection processed by one another agent working as a forwarder node
Step 4: Client initiate Two separate Network data path
Step 5: Server initiate Band width measurement for each link
Step 6: Based on the Band width Server split the video content to separate stream and send through both link
Step 7: Client receives data coming through two link to a unique buffer
Step 9: Stop

7. Conclusion

This paper proposed a Real time Adaptive algorithm to adapt the bit rate based on the band width condition of network for high quality with less buffering video streaming delivery. DASU(Dynamic adaptive streaming over UDP) with multiple links is designed to interact with new and existing video streaming applications regardless of the selected scalability techniques or encoding policies. This approach is able to adapt to the varying band width condition of the network and eventually delivering smooth video. Through simulations in the work identified significant gains for DASU with multiple links in highly-multiplexed dynamic networks. Several performance evaluations made to achieve some Qos such as Start-up latency and average play back fluency. The corresponding performance studies reveal that the proposed rate adaptive scheme compares very favorably with throughput and delay mechanisms that explicitly address time-sensitive traffic. Finally, it demonstrated that DASU with multiple links effectively overcomes the progressive nature of HTTP and maintains friendliness with interfering traffic. Comparing to other heuristic approaches, RTAA algorithm is more stable and adaptable in dynamic situations, emphasizing the benefit of resource aggregation in multipath network scenarios. The obtained results encourage for further investigate the possibility of multiple wireless networks interconnecting towards the end users.

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