Video Conferencing without PC

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Abstract- *In this project challenging the video conferencing without pc by the receiver side. Real time video faces challenges through current internet. by using the video compression Technique real time video conferencing is possible. in this paper presenting adaptive method .That combine video encoding video transmission control system with heterogeneous network. By using this method IP address is provide for receiver side of user they conferencing the video by using mobile, Tab, or laptop. In this method first collect the real time information describe the network& video and asses the quality and calculate the video coding rate.*

Keywords- Adaptive, heterogeneous networks, neural networks, reinforcement learning, video transmission control

I. INTRODUCTION

Video compression address the problem of reducing the amount of data required to represent a video with no significant loss of information The compression and transmission of real-time videos still faces huge challenges through the current Internet. Which has adverse impacts on the real-time video quality. This paper presents an adaptive method that combines video encoding and the video transmission control system over heterogeneous networks. This method includes the following steps:

Step-1: To collect and standardize the real-time information describing the network and the video.
Step-2: To assess the video quality and calculate the video coding rate based on the standardized information.
Step-3: To process the encoded compression of the video according to the calculated coding rate and transfer the compressed video.
Step-4: Lastly real time video is transferred at destination by using IP address.
Step-5: Receiver user conferencing the real time video.

II. LITERATURE REVIEW

The traditional Internet offers best-effort communication services in which the network transfers all of the messages with its best effort, with no guarantees of the Quality of Service (QoS) .The Internet Engineering Task Force (IETF) has proposed several QoS technical solutions, including integrated service, differentiated services, multi-protocol label switching, and traffic engineering but fails to provide accurate solution.The majority of studies focus mainly on video compression based on the characteristics of the video, without considering the real-time network status information as time delay, jitter, and packet loss. Researchers are studying ways to compress the video better, hoping to find a new video coding method that is network friendly .video conferencing technique mostly used compression technique .the destination user uses best quality of video conferencing by using the H.264 technique .so it is user friendly.

III. BLOCK DIAGRAM

Video is the input to the system which is input to Video acquisition Video Acquisition and Video Encoder then convert that video from analog to digital video format Video Encoder then gives the output in the form of packet

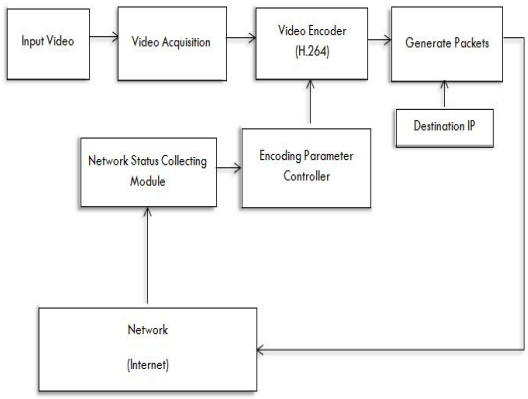

Fig-block diagram of video conferencing without pc

Video acquisition & Encoder: Video Acquisition and Video Encoder then convert that video from analog to digital video format. Video Encoder then gives the output in the form of packet. The packet sent over the network according to the destination IP provided to Network Status Collecting Module. For video compression and encoding H.264/AVC format is used. H.264/AVC (Advanced Video Coding):

H.264/AVC: is a video coding format, which is defined by International Organization for Standardization (ISO) and International Telecommunications Union (ITU-T), has relatively high coding efficiency and error resilience. The H.264/AVC standard only prescribes the coding stream that

can be accepted by decoders and does not specify how the coding machine should realize .It is one of the most widely used formats for recording, compression and distribution of video content.

Network status collecting module: This module is used to collect the condition status information of the network and video flows, which can be realized by monitoring the Real-time Transport Control Protocol (RTCP).The IP address of the devices connected to the network is stored in this module.

Encoding Parameter controller: It set parameters of H.264 Video Encoding for video compression for input video which will be transmitted over network.

Destination: lastly best images combined & transferred to the destination of the receiver user.

Software:

Matlab(2013)

Algorithm:

1. Start
2. Load Input video to be transmitted
3. Convert into frames
4. Check status of Network like available bandwidth and Network Data Rate
5. Learn or set Parameters of H.264 Video Encoding
    a) Compression Ratio
    b) Speed Up ratio
    c) Bit Rate
6. Encode Video using H.264 Encoding method by using parameter learned according to network speed
7. Combine video bit stream in to Packets with destination IP Address
8. Transmit packets using TCPIP Protocol over Internet
9. Lastly destination

Advantages:

1. Good Quality of Service (QoS)
2. High Efficiency
3. Efficient use of Network Bandwidth
4. High PSNR and Low MSE between Transmitted and Received Video

Application:

1. Video/ Multimedia Transmission
2. Video Calling/Video Conferencing
3. Remote Monitoring and Controlling Systems

IV. CONCLUSION

We have to conferencing video by using H.264 video compression technique. It provide better video quality old compression technique, so video conferencing without pc At the destination side user are very better conferencing video.

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REFERENCES

[1] H. E. Egilmez, S. Civanlar, and A. M. Tekalp, “An optimization framework for QoS-enabled adaptive video streaming over OpenFlow networks,” IEEE Trans. Multimedia, vol. 15, no. 3, pp. 710–715, Aug. 2013.

[2] M. Bystrom and J. W. Modestino, “Combined source-channel coding schemes for video transmission over an additive white Gaussian noise channel,” IEEE J. Sel. Areas Commun., vol. 18, no. 6, pp. 880–890, Jun. 2000.

[3] C. Gong and X. Wang, “Adaptive transmission for delay-constrained wireless video,” IEEE Trans. Wireless Commun., vol. 13, no. 1, pp. 49–61, Jan. 2014.

[4] Y. M. Hsiao, C. H. Chen, J. F. Lee, and Y. S. Chu, “Designing and implementing a scalable video-streaming system using an adaptive control scheme,” IEEE Trans. Consumer Electron., vol. 58, no. 4, pp.1314–1322, Nov. 2012.

[5] www.wikipedia.com