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RESEARCH ARTICLE

A CLOUD BASED FRAMEWORK OF SCALABLE AND ADAPTIVE VIDEO STREAMING AND SHARING FOR THE MOBILE USERS

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ABSTRACT: Due to The Increase of usage of Social Networking Sites on Smart Phones, The Video Sharing has become common in Today's World, but the problem is with Heavy traffic. The service is not efficient and reliable because of heavy traffic. We encounter a long buffering time. disruptions of services in the middle. We Propose a Framework which consists two parts.1) Adaptive and Scalable Video Streaming 2) Reliable Sharing of Videos. An Agent is constructed for Each Mobile user and it calculates The link capacity using scalable video technique and the streaming flow is properly adjusted And also the Agent brings the Videos which are Frequently watched by the user so that Sharing becomes easy. This Framework gives the optimal solution and provides desired Reliable Services to the End Users.

INTRODUCTION

In Today's World The Technology has given more priority the hardware at lower costs .The way of accessing the data at stationary place is old fashioned so the devices have become mobile. Higher the hardware resources, higher is the maintenance like providing space, air

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conditioned rooms and other items and also use the resources efficiently. Cloud has given Solution for such problems. It provides storage, platform, virtualization, infrastructure and other services. Cloud lessen costs, easy maintenance, ready availability at all times and places. Long Buffering Time and Disturbances usually occur in the middle of streaming due to limited bandwidth and fluctuation of the links. We propose a solution which is given below

Adaptability of the User: In sharing of Videos we face a problem of packet losing. For solving this Video Bit Rate should adapted to the varying Bandwidth of the mobile users. SVC layers are updated frequently based on the current link status of the mobile user. Each User gives feedback about Packet Loss, Delay and Signal Quality. In Social network Services (SNS), popular videos are identified and pre-fetched. With help of adaptability and scalability our streaming and sharing is carried out.

Scalability According to the Mobile user: A huge increasing of Different types of Mobile Devices in the Market. Our prototype should support all kinds of devices with different Computing Powers, Communication, Wireless links and Video Resolutions. The obtainable Bandwidth depends on the Time, Signal Strength and Traffic in its surroundings. So "Scalable Video technique" (SVC coding) is used. "AVC Video Compression" suggests that Multiple Enhancement Layers works along with Base layer (BL) as per the need. This technique is divided into 3 phases, which are Layering of Image Compression, Layering of Frame Rate and Image Resolution Layering. Using these, we can play the video with low quality.

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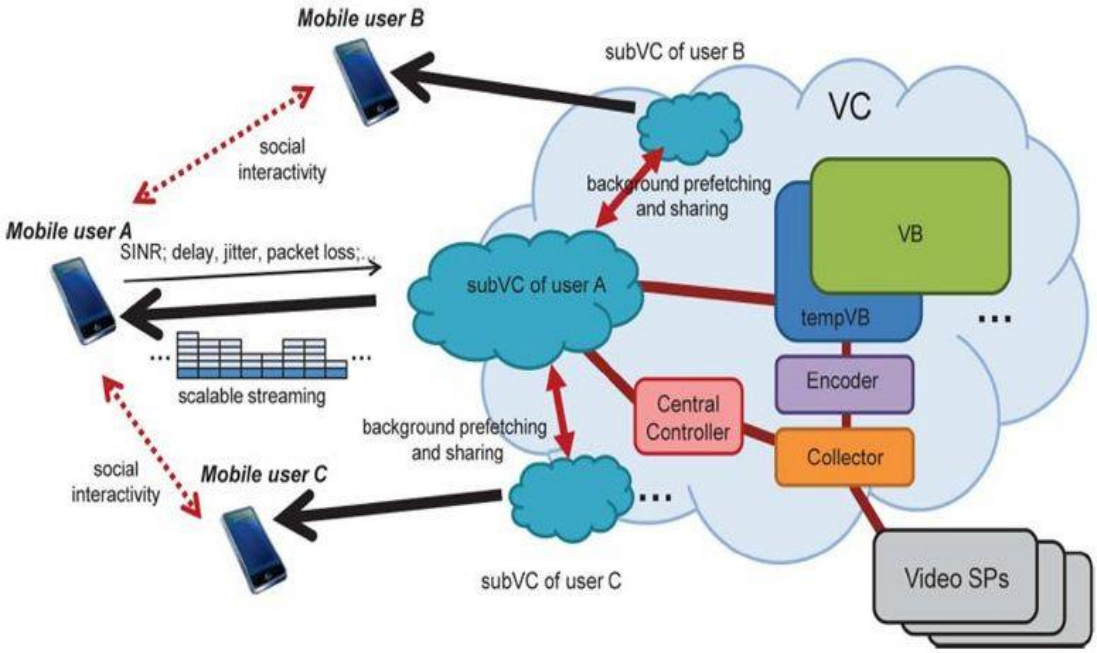
FRAMEWORK OF THE PROPOSED SYSTEM



Representation of the Proposed Work:

- Mobile user: mobile users are the different users connected in the cloud environment.
- Sub VCs: Sub Video Clouds are those which are created for every mobile user, the video segments fetched will be stored in the sub VCs. The sub VCs will store just the links of the videos.
- Encoder: the Videos collected will be encoded using the SVC and stored in the Temp Video base.
- Collector: Collector will collect the videos that are famous in VSPs (Video Service Providers) and stores in the temp VB.
- Temp VB: It stores all recently accessed videos by the users and also it sends popular videos to the new candidates.
- Video Base (VB): it is the large video database which Stores all the Popular Videos.
- Video Cloud (VC): It is the Complete Streaming and Storage of Videos System.
- Video Service Providers (VSP): Video Service providers are the Providers of videos.

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Any video which is not available in the sub VCs will be brought encoded and served to the mobile user. The sub Video cloud will be reported by the Mobile User regarding the Link Capacity, Packet Loss and Available Band width and Signal Quality. Based on that, Services will be provided. The pre-fetching of the content is used so that users will not see any delay while accessing the videos.

IMPLEMENTATION:

1. Private Admin Module
2. First User Module
3. Second User Module

1. Private Admin Module:

In this module, Admin has three Parts. They are,

- **Uploading Videos:** Admin adds a new video. The Video is posted on the main page.
- **All User Details:** With the help of it Admin can be able to See the User details
- **New Videos:** Admin can see Accept or Reject the New Videos uploaded by the users

2. First User Module:

In this module, it contains the following sub modules and they are,

- **News Feed:** Users can see the Status like messages and videos shared
- **Find Friends:** Friends can be Searched and Send Friend request.
- **Sharing Video:** Status like messages can be updated and also videos can be shared.
- **Updating Details:** User can also update details

3. Second User Module:

In this module, user registers with the cloud with their details like name, password, gender, age, and then. Users can accept friend Request. Users can watch the Shared Videos and also comment on them.

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CONCLUSION

In the above Published Paper A Framework was designed in which Private Agent is being constructed, It serves the video streaming by calculating the users bandwidth, signal etc. Using this end user can get non buffering experience by background Functions like pushing the main parts of the video into the VB's, Sub VB's and Local VB's. Lot of Improvement in Adaptability and Pre-fetching of Videos is achieved. Encoding of videos is very complex task and it is given less importance. Our Future wok is implementing the concept in the large scale, by taking into account factors like Security, Cost and Energy consumption constraints.

REFERENCES

[1] *CISCO, "Cisco Visual Networking Index : Global Mobile* Data Traffic Forecast Update , 2011-*2016," Tech. Rep.,* 2012.

[2] *Y. Li, Y. Zhang, and R. Yuan, "Measurement and Analysisof a Large Scale Commercial Mobile Internet TV System," in*ACM IMC,pp. 209–224, 2011.

[3] *T. Taleb and K. Hashimoto, "MS2: A Novel Multi*-SourceMobile-*Streaming Architecture," in* IEEE Transaction onBroadcasting,vol. 57, no. 3, pp. 662–673, 2011.

[4] *X. Wang, S. Kim, T. Kwon, H. Kim, Y. Choi, "Unveilingthe BitTorrent Performance in Mobile WiMAX Networks," in* Passive andActive Measurement Conference, 2011.

[5] J. Fernandez, T. Taleb, M. Guizani, and N. Kato,*"Bandwidth Aggregation*-aware Dynamic QoS Negotiation forReal-Time VideoApplications in Next-Generation Wireless *Networks," in* IEEE Transaction on Multimedia, vol. 11, no. 6, pp. 1082–1093, 2009.

[6] *A. Nafaa, T. Taleb, and L. Murphy, "Forward Err*orCorrection Adaptation Strategies for Media Streaming over *Wireless Networks,"in* IEEE Communications Magazine, vol46, no. 1, pp. 72–79, 2008.

[7] T. Taleb, K. Kashibuchi, A. Leonardi, S. Palazzo, K. Hashimoto, N. Kato, and Y. Nemoto, "A Cross-layer Approach for An Efficient Delivery of TCP/RTP-based Multimedia Applications in Heterogeneous Wireless Networks," in *IEEE Transaction on Vehicular Technology*, vol. 57, no. 6, pp. 3801–3814, 2008.

[8] M. Wien, R. Cazoulat, A. Graffunder, A. Hutter, and P. Amon, "Real-Time System for Adaptive Video Streaming Based on SVC," in *IEEE Transactions on Circuits and Systems for Video Technology*, vol. 17, no. 9, pp. 1227–1237, Sep. 2007.

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[9] H. Schwarz, D. Marpe, and T. Wiegand, "Overview of the Scalable Video Coding Extension of the H.264/AVC Standard," in *IEEETransactions on Circuits and Systems for Video Technology*, vol. 17, no. 9, pp. 1103–1120, Sep. 2007.

[10] K. Zhang, J. Kong, M. Qiu, and G.L Song, "Multimedia Layout Adaptation Through Grammatical Specifications," in *ACM/Springer Multimedia Systems*, vol. 10, no. 3, pp.245–260, 2005.

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