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Reducing Buffer Time for Multimedia Files by Using SSL Protocol

Pathi Jagadeesh, Astt. Prof. S H Shabbeer Basha
Department of Computer Science, Madanapalle Institute of Technology and Science,
Madanapalle, Chittoor District, Andhra Pradesh State, India

Abstract:

Network traffic measurement is one of the most significant means to establish exact network models, new protocols and applications. Multimedia applications are various emerging networks these are expected to become the major traffic of internet which will keep increasing rapidly. In order to serve such large scale multimedia applications and more service providers store their video assets in cloud. YouTube is the one of the best example of these applications. In the existing traditional model we have two drawbacks one is a lot storage devices and lot servers are needed, which could easily be the performance bottle neck in the system. Second, to provide differential classes of services in the large scale situations, system tends to need many additional services. We overcome these problems by providing SSL key generation and matching between available bandwidth prediction and scalable video coding.

Keywords: Multimedia Applications, SSL Key generation,Matching bandwidth and video coding.

I. INTRODUCTION

Now a days cloud computing is tendency in the development of Internet. Huge volumes of information are computed at the same time client demands are met quickly, on the basis of the structural design of cloud source virtualization. The simple method for cloud computing is the derivation of dispersed compute and grid computing. In latest days, when a cellular phone gadget has urbanized quickly, clients are capable of accessing internet services ubiquitously also at anytime. Predominantly by the growth of 3rd Generation and 4th Generation systems, multimedia services were turn into widespread appliance services. The medium of cloud is extended equipment, urbanized to reach the common modifications in communication trade as well as client's appeal for greater multimedia excellence and a variety of workstation component.

This comprehends multimedia computing, storage space design, as well as allocation of facilities depending on the authoritative math potentiality of cloud computing. Usually talking, retrieving multimedia video services with networks are not a major trouble. The most important video podiums, like You-tube and Amazon, has excellent organization approach and also offer clients to share multimedia videos without difficulty by distinguished services.

When the network clients grow, bandwidth deficiency takes place later network multimedia services are influenced considerably. Conflicting from common resources with elevated approval time for packet failure, multimedia packets highlight the accuracy, chain sequence along with instantaneous environment of packets. To decide these difficulties, this approach planned the complete design, and additional conversations was obtained on how energetically regulate the appliance and accomplish multimedia files to afford self-adaptive multimedia streaming services with respective to the conservational restrictions of numerous plans in a cloud atmosphere.

II. MOTIVATION

The main motivation of the project comes from the YouTube and social networking sites. When the user wants to play a video, which he had already played in the past time so that video shouldn't load again irrespective of network strength that is the main objective of the proposed system and also in the social networking sites we will provide secure sharing of videos for the users by using Secure Socket Layer key.

III. CONTRIBUTIONS

In this paper, we mainly focus on the network and how is it going to be viewed in the end user for playing the video which is in the cloud storage and how much time it is going to take to retrieve the video from the cloud using internet.

- We represent SSL key generation for the secure transfer of the video.
- Video is uploaded and it can be retrieved from cloud with irrespective of network

IV. EXISTING SYSTEM

The existing traditional cloud-based storage system contains two drawbacks. First, a lot of servers and storages devices are needed, which could easily be the performance bottleneck in the whole system. Second, to provide differential classes of services in the large-scale situation, system tends to need many additional devices. Multimedia cloud proposes emerging multimedia applications and provides multimedia services for consumers. Here another challenging issue is not effectively transferring the multimedia data on clouds.

V. DISADVANTAGES

- Input and output (I/O) and storage always is very important issue in computer architecture, it is very difficult to balance between speed, capacity and cast.
- The system performance is very low.
- In this pattern, traffic collector, algorithm developer and computing service provider were not effectively integrated.

VI. PROPOSED SYSTEM

We overcome these existing problems propose SSL key generation and the bandwidth prediction and scalable video algorithm. Adaptive Quality of Service algorithm in order to provide differential service levels. The system can also be used flexibly in large, medium and small-scale environment. Another key challenging issue is effectively transferring the multimedia on the clouds while providing quality of service (QoS) condition. Some other algorithms are used to improve the overall performance of the system and fault tolerance.

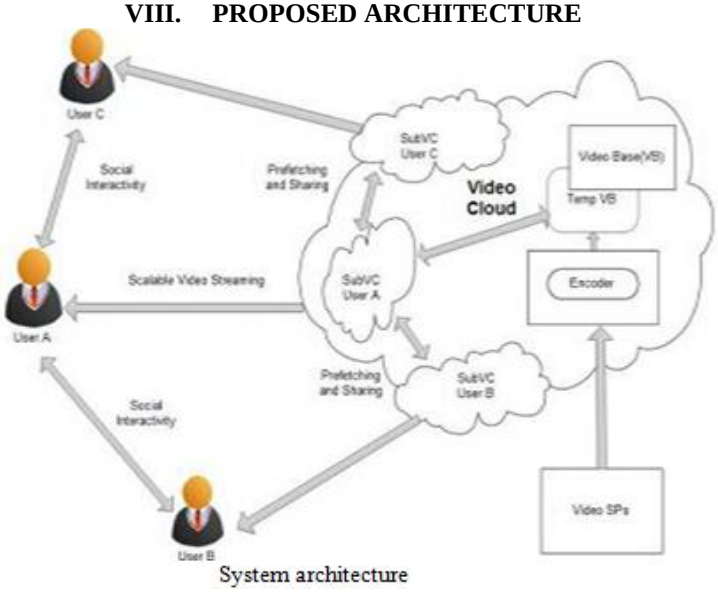
VII. ADVANTAGES

Mainly the proposed system achieves the three functions of a multimedia-aware cloud,

- QoS supporting and provisioning.
- Parallel processing in distributed environment.
- QoS adaptation.

The performance will be high and reduce the traffic problems

VIII. PROPOSED ARCHITECTURE



System architecture

IX. ALGORITHMS AND TECHNIQUES

Algorithm: Matching LVS-AVS bandwidth and segments
Terms Proposed:
BWTH: Bandwidth
SINR: simple index noise ratio
RBL: Bit rate length of base layer
RTT: Round triple time
BL: Base Layer
EL: Enhanced Layer
Input:
1: sequence no timing window: j=0,
base bandwidth equals to bit stream length:
BWTH0=RBL,
video layer rate : RL.
Output:
2: estimated bandwidth: $BWTH^{estimate}$ delay T_{im}
system resource utilization : SYS_{res}
Round triple time RTT,
noise ratio SINR,
packet lose rate p.
Initialization:

3: bandwidth enhanced layer $BWTH_{BL}$=0,
enhance layer l=0.
Procedure:
4: compute estimated bandwidth $BWTH^{estimate}$
5: compute practical bandwidth $BWTH^{pracical}$
6: compute packet lose rate p
7: bit rate of lth enhance layer R_{EL}^{l}
repeat
l++
if l>= total enhance layer k then break
bandwidth enhanced layer $BWTH_{EL} = BWTH_{EL} + R_{EL}^{l}$
until $BWTH_{EL} >= BWTH_{j+1}^{estimate} - R_{BL}$
8: if $BWTH_{j+1}^{estimate} \leq BWTH_{j}^{practical}$ break
9: transmit SVC segment of BL with temporal sequence j
RL_{j+1}^{1}, RL_{j+1}^{2},……., RL_{j+1}^{l-1}
10: check $BWTH_{j+1}^{practical}$ in time interval T_{im}
11: increment sequence no timing window j++
12: until last frame RL of stream transmitting.

SSL:

The Secure Socket Layer protocol was created by netscape to ensure secure transactions between web browser and web servers.

X. MODULES

Here the following are the three modules that are used in the proposed system.

1. Admin
2. User1
3. User2

Admin:

Here in this module, there are four associate modules. Those are,

Upload Video: Here Admin can add a new video. It is used for user for viewing more collections.
User Details: Admin can view the user those have registered in this site.
New Video's: In this module the admin can restrict unexpected videos from users by accept or reject videos then only user can or cannot access to view their own videos.
Logout: Admin can logout after finishing his work.
User 1:

This module includes registration of user with personal information and password creation.

The following are associate modules in user1 module,

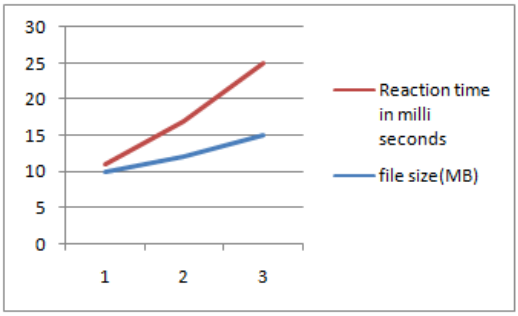
News Feed: The user can get access to view the status, videos or messages of accepted friends.
Search Friends: User can search for links, send friend request and also can view their allowed details.
Share Video: The user can share videos with his friends by adding videos.
Update Status: In this module, the user can update status**.**
Friends: In this module, the user can see the accepted friends details.
My Videos: In this module the user can check their updated videos.
Messages: Here user can view the messages from friends.
Secret key: Will be generated by admin, when the user wants to view shared video.
Logout: Here the user can logout after finishing his work.

3. User 2:

This module includes the other user who recieves the messages from the user 1 or other user.

The modules are same as the user1 and continues the same process.

XI. GRAPHS



The graph shows the time that takes to react to the user command in viewing the video.

XII. CONCLUSION

In this paper, a cloud storage system was proposed in order to provide robust, scalable, highly available and load-balanced service. In the meantime, the system also needs to provide quality of service provision for multimedia applications and services.

There are some future works in the proposed system. Since system stores contents on storages randomly, the content scheduling algorithm could be developed in the future in order to balance the access load on all storages as far as possible and avoid hot-spot storage to a certain extent. Another issue is that whether some storage is ultimately popular and cannot even serve high class users properly. The content pieces caching algorithm may be developed in the future in order to solve this issue and improve overall system performance.

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