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Transmission Mechanism To Effectively Increase The Social Tv Viewing Experience By Cloud

Penta Mukhesh [1],A.Ramamurthy [2], K.T.V Subbarao [3]
Department of Computer Science And Engineering
Akula Sree Ramulu institute of Engineering and Technology, prathipadu,Tadepalligudem,A.P,India
[1] Email- mukhesh4444@gmail.com,[2] ram111_sai@yahoo.com,[3]ogidi@rediffmail.com

Abstract:
Strong challenges occur on how to competently exploit cloud resources to make easy mobile services. We propose the design of a Cloud-based novel Mobile social TV system (CloudMoV). The system efficiently utilizes both PaaS (Platform-as-a-Service) and IaaS (Infrastructure-as-a- Service) cloud services to propose the living-room knowledge of video watching to a group of dissimilar mobile users who can interconnect socially while sharing the video. The latest cloud computing technology with its wealthy possessions to balance for the limitations of mobile devices and connections can potentially give with an ideal platform to hold up the desired mobile services. We explain the devise of a novel mobile social TV system, CloudMoV which can in effect employ the cloud computing paradigm to proffer a living-room experience of video watching to disparate mobile users with impulsive social interactions. In CloudMoV mobile users can import a live or on-demand video to watch from any video streaming site, invite their friends to watch the video concurrently, and chat with their friends while enjoying the video.

Introduction:
The latest cloud computing technology with its rich resources to recompense for the limitations of mobile devices and connections can potentially provide an ideal platform to carry the desired mobile services. Rough challenges come up on how to in effect exploit cloud resources to facilitate mobile services especially those with inflexible interaction delay requirements. In this paper we propose the intend of a Cloud-based novel Mobile social TV system CloudMoV. The system effectively exploits both PaaS (Platform-as-a-Service) and IaaS (Infrastructure-asa- Service) cloud services to proffer the living-room experience of video watching to a group of disparate mobile users who can interact socially while sharing the video. To assurance good streaming quality as experienced by the mobile users with time altering wireless connectivity we employ a surrogate for each user in the IaaS cloud for video downloading and social exchanges on behalf of the user. It is natural to option to cloud computing the newly-emerged computing paradigm for low-cost, agile, scalable resource supply, to support power-efficient mobile data communication. The large confront in front of us is how to efficiently develop cloud services to make easy mobile applications.

Related Work:
Some early systems carry the “living room” practice to small screens on the move. But they focus more on barrier clearance in order to understand the convergence of the television network and the mobile network than discovering the demand of “social” interactions among mobile users. There is another trend in which efforts are devoted to extending social elements to television systems. Coppens et al. attempt to add rich social interactions to TV but their plan is limited to traditional broadcast program channels. Oehllberg et al. conduct a sequence of experiments on human social activities while watching different kinds of programs. While inspiring these designs are not that appropriate for being applied directly in a mobile environment. Chuah et al. make bigger the social experiences of viewing traditional broadcast programs to mobile devices but have yet to deliver a well integrated framework.

Existing Method:
Some early systems bring the living room experience to small screens on the move. But they focus more on barrier clearance in order to comprehend the convergence of the television network and the mobile network than exploring the demand of “social” interactions among mobile users. For any application targeted at mobile devices dropping power consumption is perennially one of the major concerns and challenges.

Disadvantages:
Though many mobile social or media applications have emerged truthfully killer ones gaining mass acceptance are still obstruct by the limitations of the current mobile and wireless technologies among

which battery lifetime and unstable connection bandwidth are the hardest ones.

Proposed Method:

The system effectively utilizes both PaaS (Platform-as-a-Service) and IaaS (Infrastructure-as-a- Service) cloud services to put forward the living-room experience of video watching to a group of distinct mobile users who can act together socially while sharing the video. To guarantee good streaming quality as experienced by the mobile users with time undependable wireless connectivity we employ a substitute for each user in the IaaS cloud for video downloading and social exchanges on behalf of the user.

Advantages:

CloudMoV modify the streams for different devices at real time by offloading the transcoding tasks to an IaaS cloud. The crumble transmission mechanism makes careful decisions on burst sizes and opportunistic transitions among high/low power consumption modes at the devices in order to efficiently increase the battery lifetime. Several mechanisms are included in the design of CloudMoV to ease spontaneous social, co-viewing experience.

System Architecture:

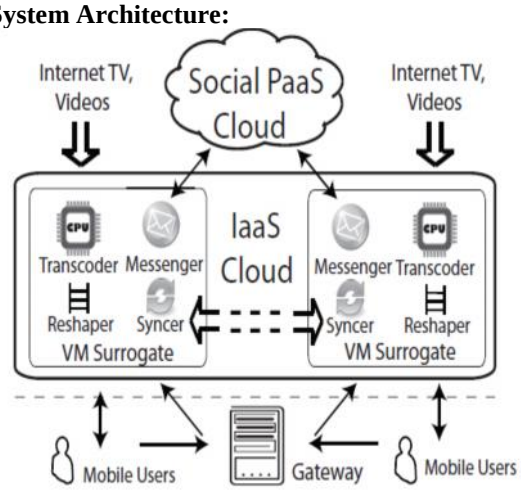


Fig. 1. The architecture of CloudMoV.

Transcoder:

It resides in each surrogate, and is responsible for dynamically deciding how to encode the video stream from the video source in the appropriate format, dimension, and bit rate. Before delivery to the user, the video stream is further encapsulated into a proper transport stream. Each video is exported as MPEG-2 transport streams, which is the de facto standard nowadays to deliver digital video and audio streams over lossy medium.

Social Cloud:

Social network is a dynamic virtual organization with inherent trust relationships between friends. This dynamic virtual organization can be created since these social networks reflect real world relationships. It allows users to interact, form connections and share information with one another. This trust can be used as a foundation for information, hardware and services sharing in a Social Cloud.

Messenger:

It is the client side of the social cloud, residing in each surrogate in the IaaS cloud. The Messenger periodically queries the social cloud for the social data on behalf of the mobile user and pre-processes the data into a light-weighted format (plain text files), at a much lower frequency. The plain text files are asynchronously delivered from the surrogate to the user in a traffic-friendly manner, i.e., little traffic is incurred. In the reverse direction, the messenger disseminates this user's messages (invitations and chat messages) to other users via the data store of the social cloud.

Gateway:

The gateway provides authentication services for users to log in to the CloudMoV system, and stores users' credentials in a permanent table of a MySQL database it has installed. It also stores information of the pool of currently available VMs in the IaaS cloud in another in-memory table. After a user successfully logs in to the system, a VM surrogate will be assigned from the pool to the user. The in-memory table is used to guarantee small query latencies, since the VM pool is updated frequently as the gateway reserves and destroys VM instances according to the current workload. In addition, the gateway also stores each user's friend list in a plain text file (in XML formats), which is immediately uploaded to the surrogate after it is assigned to the user.

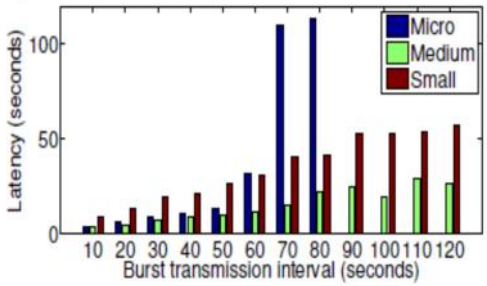
Subscribe:

In this module user can download the video. Subscribe module download video in high speed and clear video streaming. Authorized user every one download and watch the videos.

Enhancement:

Efficient social video sharing constructs a private agent to provide video streaming services efficiently for each mobile user. For a given user, adaptive mobile video streaming lets her private agent adaptively adjust her streaming flow with a scalable video coding technique based on the feedback of link quality. Likewise, efficient social video sharing monitors the social network interactions among mobile users, and their private agents try to prefetch video content in advance.

Experimenatl Results:



It illustrates the playback start-up latencies when different VM occurrences are used as the substitute for an iPhone 4S and different burst transmission intervals are employed. It shows that in general the longer the burst interval is the larger the segment of video to transcode is and thus the longer the start up latency is. We can see the standard instance achieves better transcoding presentation with larger computation capacity as evaluated to the small instance. The latency with the micro instance is without warning large when the burst interval is longer than 60 seconds and as such we need not assemble the latencies for even longer burst intervals.

Conclusion:

We initiate a general and portable mobile social TV framework CloudMoV that makes use of both an IaaS cloud and a PaaS cloud. The structure offers competent transcoding services for most platforms under various network conditions and supports for co-viewing skills through timely chat exchanges amongst the viewing users. By employing one surrogate VM for each mobile user we realize ultimate scalability of the system. During an in-depth investigation of the power states in commercial 3G cellular networks we then recommend an energy-efficient burst transmission mechanism that can in effect enlarge the battery lifetime of user devices. We have implemented a realistic prototype of CloudMoV organized on Amazon EC2 and Google App Engine where EC2 instances serve as the mobile users' surrogates and

GAE as the social cloud to knob the large volumes of social message exchanges.

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Authors:

Mr. P.Mukhesh is a student of Akula Sree Ramulu institute of Engineering & Technology, Tadepalligudem. Presently he is pursuing his M.Tech [Computer Science and Engineering] from this college and he received his B.Tech from MPTB College of Engineering, affiliated to JNTUK University, KAKINADA in the year 2012. His area of interest includes Object Oriented Programming languages ComputerNetworks, all current trends and techniques in Computer Science.

DR.A.RAMAMURTHY, Well Known Professor and he Received Ph.D from Jntu University and working as a Principal of Akula Sree Ramulu Institutions. He has 12 years of experience in various engineering colleges. His area of interest includes Object Oriented Programming Languages, Software Engineering, Operating Systems, Computer Networks and other advances in Computer Languages.

Prof. K.T.V Subbarao ,well known Author and teacher received M.Tech (CSE) and working as Principal, Akula SreeRamulu institute of Engineering and Technology, He is an active member of ISTE. He has 12 years of teaching experience in various engineering colleges. To his credit couple of publications both national and international conferences/journals. His area of interest includes cryptography and network security, Distributed databases, Operating systems and other advances in computer Applications.