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A Social Network Based P2P Overlay Construction for Video Sharing In Online Social Networks

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ABSTRACT

In recent years video sharing has become a most popular application in internet and this video sharing system is used in all kinds of online social networks. Basically this video sharing system is works with client/server architecture, which is costly in terms of bandwidth and storage but also it is not scalable with more number of users in an online social networks. In recent the peer assisted video on demand technique has been introduced, here peer are nothing but nodes those are same as another, in this technique participating peers helps the server in delivering the video content into the server. Basically in online social networks all the videos are distributed through the friends only, the current vod works explore the clustering nodes with similar interests or location for high performance. In this I propose that a novel peer assisted video sharing system that explores social relationship, interest similarity, and physical location between peers in online social networks.

Keyword-Video-on-demand (VoD), On-line social net works, Peer-to-peer net works, Peer-to peer assisted VoD.

INTRODUCTION

While demands on video traffic over mobile networks have been souring, the wireless link capacity cannot keep up with the traffic demand. The gap between the traffic demand and the link capacity, along with time-varying link conditions, results in poor service quality of video streaming over mobile networks such as long buffering time and intermittent disruptions. Leveraging the cloud computing technology, I propose a new mobile video streaming framework, dubbed AMES-Cloud, which has two main parts: adaptive mobile video streaming (AMoV) and efficient social video sharing (ESoV). AMoV and ESoV construct a private agent to provide video streaming services efficiently for each mobile user. For a given user, AMoV lets her private agent adaptively adjust her streaming flow with a scalable video coding technique based on the feedback of link quality. Likewise, ESoV monitors the social network interactions among mobile users, and their private agents try to prefetch video content in advance. I implement a prototype of the AMES-Cloud framework to demonstrate its performance. It is shown that the private agents in the clouds can effectively provide the adaptive streaming, and perform video sharing based on the social network analysis.

Related Work

Unveiling the bit torrent performance in mobile Wi MAX networks:

As mobile Internet environments are becoming widespread, how to revamp peer-to-peer (P2P) operations for mobile hosts is gaining more attention. In this, we carry out empirical measurement of Bit Torrent users in a commercial Wi MAX network. The investigation how it handovers in Wi MAX networks impact the Bit Torrent performance, how Bit Torrent peers perform from the aspects of connectivity, stability and capability, and how the Bit Torrent protocol behaves depending on user mobility. By observing that the drawbacks of BitTorrent for mobile users are characterized by poor connectivity among peers, short download session times, small download throughput, negligible upload contributions, and high signaling overhead.

TABLE1: Bandwidth capacity and distribution of users

Groups	Downloading bandwidth	Uploading band-width	Percentage of nodes
1.	768k/s	128k/s	21.4%
2.	1536k/s	384k/s	23.3%
3.	3072k/s	768k/s	55.3%

EXISTING SYSTEM

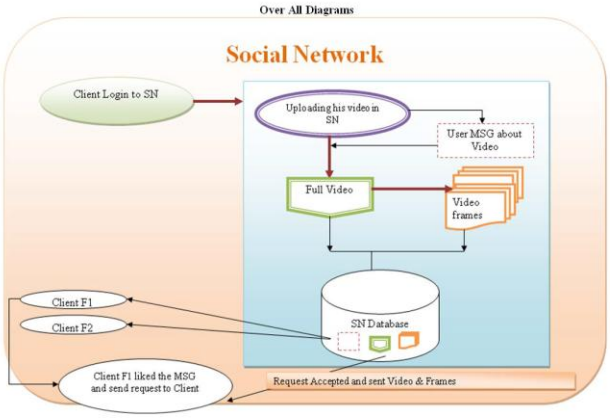
Existing system approaches video sharing has been an increasingly popular application in OSNs, enabling users to share their personal videos or interesting videos they found with their friends. Indeed, according to com Score Releases in August 2010, Face book is now the second-largest online video viewing platform. The total time spent on video viewing on Face book increased 1,840% year-over-year, from 34.9 million minutes in October 2008 to 677.0 million minutes in October 2009. During the same time period, the number of unique video viewer increased by 548% and total number of streams grew by 987%. The recent rapid development of OSN video sharing applications illustrates the evolution of OSNs from simply communication focused tools to a media portal. OSNs are transforming from a platform for catching up with friends to a venue for personal expression and for sharing a full variety of content and information.

PROPOSED SYSTEM

To propose a new mobile video streaming framework, dubbed AMES-Cloud, which has two main parts: adaptive mobile video streaming(AMoV) and efficient social video sharing (ESoV).AMoV and ESoV construct a private agent to provide video streaming services efficiently for each mobile user. For a given user, AMoV lets her private agent adaptively adjust her streaming flow with a scalable video coding technique based on the feedback of link quality. Likewise, ESoV monitors the social network interactions among mobile users, and their private agents try to prefect video content in advance. I implement a prototype of the AMES-Cloud framework to demonstrate its performance. It is shown that the private agents in the clouds can effectively provide the adaptive streaming, and perform video sharing based on the social network analysis. Here a novel peer-assisted video sharing system that explores social relationship, interest similarity, and physical location between peers in OSNs. Specifically, Social Tube incorporates four algorithms:

1. A social network (SN)-based P2P overlay construction algorithm,
2. A SN-based chunk perfecting algorithm,
3. Chunk delivery and scheduling algorithm,
4. A buffer management algorithm.

SYSTEM ARCHITECTURE



Our measurement reveals that most of the viewers of a user's videos are the user's close friends, most video views are driven by social relationships, and the rest are driven by interests, and viewers of the same video tend to reside in the same location. Based on our observations, we propose Social Tube, a system that explores the social relationship, interest similarity [3] and location to enhance the performance of video sharing in OSNs. Specifically, an OSN has a social network (SN)-based P2P overlay construction algorithm [1] that clusters peers based on their social relationships and interests. Within each cluster [2], nodes are connected by virtue of their physical location in order to reduce video transmission latency. Social Tube also incorporates a SN based chunk perfecting algorithm to minimize video playback startup delay.

CONCLUSION

Here by observing video watching trace data in none of the largest online social network websites Face book, From July 2007 to August 2010 and explored the users' video viewing patterns. We found that in a user's viewer group, 25% viewers watched all video soft he user driven by social relationship, and the viewing pattern of the remaining nodes is driven by interest. Based on the observed social and interest relationship in video watching activities, novel P2P assisted video sharing system in online social networks, which provides efficient P2P assisted video sharing's services. Extensive simulation results show that it can provide a low video start up delay and low server traffics demand.

Future Enhancement

As one important future work, we will carry out large-scale implementation and with serious consideration on energy and price cost. In the future, we will also try to improve the SNS-based perfecting, and security issues in the AMES-Cloud.

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