

# Mobile Enabled Streaming System

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**Abstract:** In this paper we present mobile enabled streaming system stream-me architecture which integrates local storage NAS, cloud storage and peer to peer storage. Our aim to provide users video contents on their mobile device at anywhere and at anytime.

**Keywords:** Cloud Computing; Multimedia server; Multimedia Streaming; P2p Network.

## 1. Introduction

When *Streaming media* is multimedia that is constantly received by and presented to an end-user while being delivered by a provider. The verb "to stream" refers to the process of delivering media in this manner; the term refers to the delivery method of the medium rather than the medium itself. A client media player can begin playing the data (such as a movie) before the entire file has been transmitted. Now a days user uses their smart phones to watch high definition multimedia contents, limitation of high definition video is memory size required to store is larger than normal video. User may use cloud to overcome this problem but the main issue in cloud storage is bandwidth limitation restricted to user and other is streaming delay of multimedia content. User may use p2p network for store their content but it require strong management of network. Other issue related of p2p Is copyright content may stored on the p2p which is illegal.

In this paper we introduces a architecture which manages users personnel NAS, cloud, p2p storage and provide users multimedia content on demands, so user can watch their content anywhere at anytime on their devices.

## 2. Concept

Stream-me manager is concept of distributed computing which manages distributed resources and integrates different storage. Fig 1. shows the system architecture where at top level user may request to search video on NAS by using Bluetooth or wi-fi. The responsibility of the Bluetooth and wifi module is to generate video content list, along this list link is provided to user, by using this link user may start their multimedia streaming and watch their content. The streaming delay for this is near about 0 second. If the users video is not on the local NAS he/she makes the request to cloud where cloud provide the list with their link, by using this link user starts the streaming of video. It has streaming delay. User may use p2p storage for getting the video streaming.

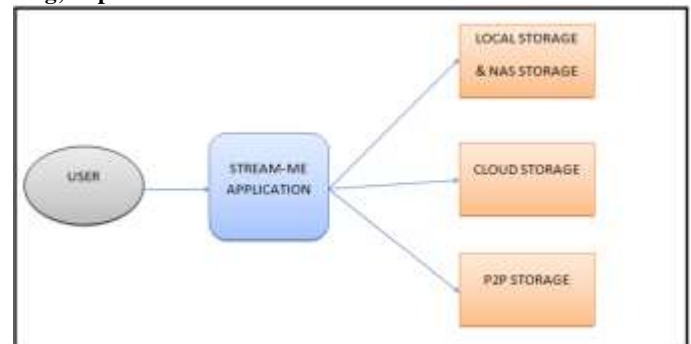


Figure 1:General concept of Stream-Me

## 3. Implemented Streaming System Prototype

Streaming servers play a key role in providing streaming services. To offer quality streaming services, streaming servers are required to process multimedia data in real time, support VCR like functions and retrieve media components in a synchronous fashion. Streaming servers mainly have three components which are the communicator, operating systems and storage systems. Following are some key concept of implemented system.

### 3.1 Local NAS

Whenever user request to video, local NAS find the video and provide the link of requested video if found, if the video is not found then it simply send error message

### 3.2 Cloud

Cloud computing offers different service models as a base for successful end user applications. Due to the elastic infrastructure provided by the Cloud, it is suitable for delivering VoD and live video streaming services. If the video is not found on the local NAS then the user request may forwarded to cloud manager which provide result on querying video for streaming.

### 3.3 P2P

A few schemes for media streaming which integrate the benefits of P2P and cloud technologies are proposed recently. The cloud contains multimedia streaming servers. The service provider has direct centralized management for managing the contract policies among all types of customers. In P2P based live streaming systems the play out rates are constrained by the upload bandwidth of clients. Usually, the upload bandwidth is lower than download bandwidth for the participating peers. If the video is not available in local NAS, and Cloud storage then system may use the p2p storage for streaming.

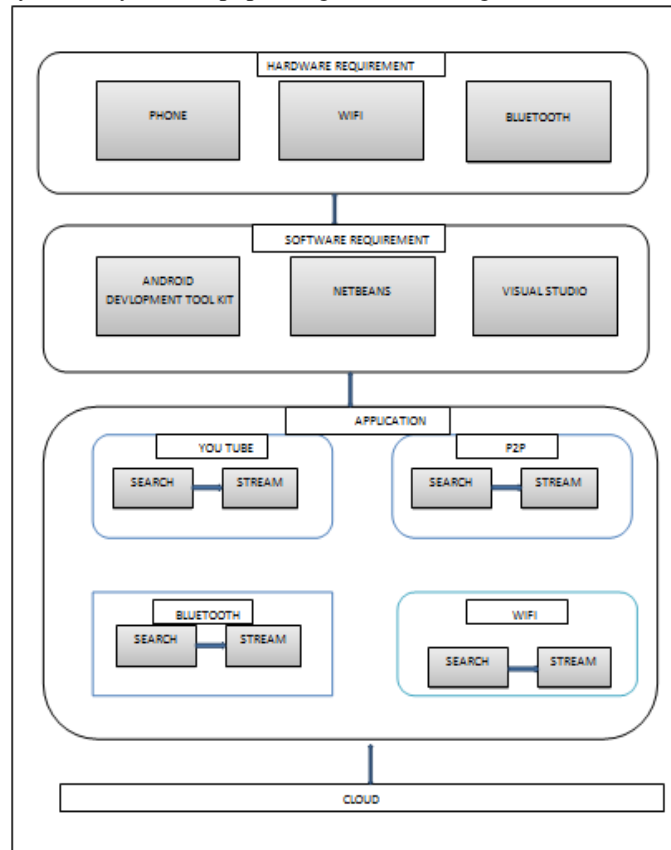


Figure 2: System block diagram

We implemented proposed system in java and .net language. For desktop server we use java and c#.net language. For android platform we used adt and we use

bit-torrent client for p2p streaming. As architecture shows hardware and software requirements along with application and different storage. At top level user access the hardware to use the application and storage platform used to retrieve stored users multimedia contents.

### 4. Conclusion and Future Scope

Thus we proposed a system stream-me which integrates different storage platform like local storage, NAS, Cloud and P2P storage to stream the video contents as per users demands. It also manages distributed resources of the system and provide users multimedia content at anywhere at anytime. In future we are going to implement this system for desktop user and also integrates different social mediums multimedia contents.

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