

CLLOUD BASED MOBILE MEDIA SYSTEM IN SMARTPHONES

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ABSTRACT

Due to the rise in Smartphone's and in wireless technology on with the rise of population the goal of the wireless technology is to allow the user a comfort that, as shortly as user cares any data it'll are available in front of user instantly. This paper surveys the foremost rising paradigm of mobile cloud media. Cloud mobile media has primarily 2 types of reads: Associate in Nursing End-to-End read & a stratified view. Platform-as-a-service, Software-as-a-service, Infrastructure-as-a-service.

KEYWORDS:

Cloud Computing, mobile media, Cloud media, Cloud central media network.

1. Introduction

Rapidly increase of use of Mobile Phones, good phones, tablets with the usage of wireless net provides rise to large demands for media applications. This result, in turn, is triggering Associate in Nursing exponential growth of mobile traffic, dominated by video contents. The widespread use of smartphones and different mobile devices contributes to unprecedented sharing of mobile multimedia system on social networking sites like Facebook or streaming on internet sites like YouTube[11]. in keeping with electronic marketers, the overall user of good phones can become one.75 billion in 2014 over the planet. A user expertise with mobile videos is largely contained by 3 elementary challenges. 1st is that the, restricted on-board resource of mobile devices for media cryptography and process [1]. Second, the time-varying and unreliable wireless channel limits the communication information measure between

mobile devices & back-end content delivery systems [2]. Third, the comparatively static mechanism of system resource provision existed in the back-end systems that cannot react quick enough to flash-crowd demands for common contents [3]. The rising cloud-computing technology [4] offers an honest answer to decrease the price of deploying and operative mobile media networks. Below the cloud-computing paradigm, system resources are often allotted dynamically to fulfill the elastic application demand in a very period of time manner. As an example, computing resources in information centers are often instantiated into virtual machines (VMs), whose capability are often dynamically designed for the specific media applications. The cloud computing method has begun to remodel mobile media expertise, leading to a brand new space of analysis, cloud mobile media [5], [6], [7], [8]. Cloud computing faces some technical challenges they are:

- Scalability: The system ought to handle an oversized variety of contents, users and devices.
- Heterogeneity: The system ought to be able to accommodate contents in several formats, users with totally different preferences, and devices with totally different forms.
- Reliability: The system ought to style with high calculated redundancy to supply the non-interruptive services that is the presence of system failures, further as problems with unreliable wireless channels.
- Usability: The system ought to style in such the way that, it's convenient for all users with a good vary of technology capabilities. The computer program ought to be simple to find out, intuitive, and appropriate to varied mobile devices with restricted interactive choices.
- Security: Digital Rights Management and privacy are the most concern ought to be takes place in cloud computing.

1.1 Cloud Mobile Media

To provide wealthy media services, transmission computing is emerging in numerous technologies to come with, edit, process, and search media contents, like pictures, video, audio, graphics, and so on. For transmission applications and services over the net and mobile wireless networks, there are unit robust demands for cloud computing as a result of the many quantity of computation needed for serving innumerable net or mobile users at constant time. During this new cloud-based multimedia-computing paradigm, users store and their method and transmission application knowledge within the cloud in a very distributed manner, eliminating full installation of the media application code on the users' laptop or

device and so relieving the burden of transmission code maintenance and upgrade moreover as frugal the computation of user devices and saving the battery power of mobile[11].

1.2. Cloud storage Service

Mobile Cloud Storage is that the most typically used class of Cloud Mobile Media application/servicethese days, with offerings from Amazon, Apple, Dropbox, and Google, among others. These servicesgive completely different capabilities, including storing documents, photos, music and video within the cloud, accessing media from anyplaceany device regardless of the supply of the media and/or the device/platform accustomed generate the media, and synchronizing data,media across multiple devices a typical user owns.

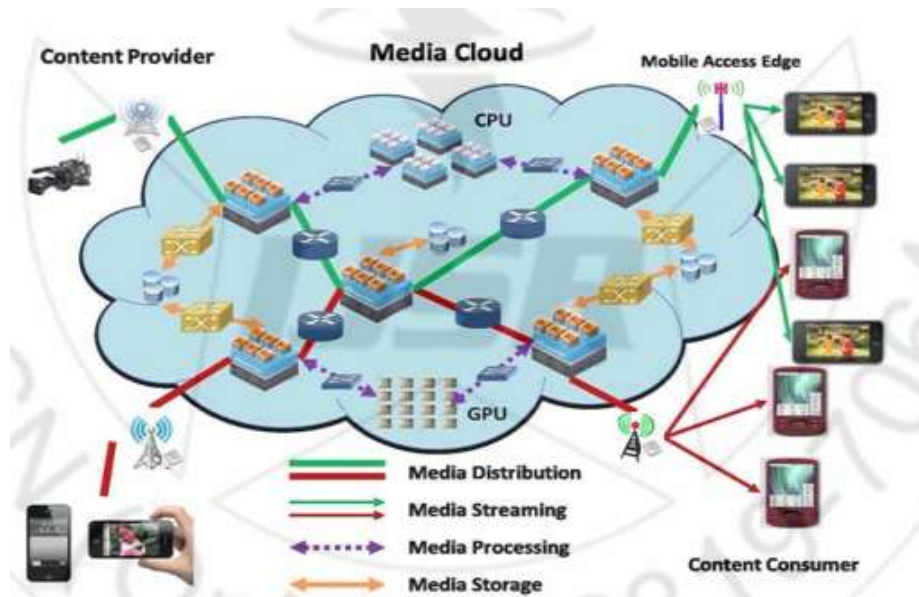
2. Cloud Mobile Media Network: A System read

In this paper, we have a tendency to gift cloud mobile media system into a group of democraticmodules as 2 various read points for the cloud mobile media design, together with Associate in Nursing end-to-end model and stratified model.

2.1 Associate in Nursing End-to-End progress Model

In below fig.1, we have a tendency to gift a scientific end-to-end read of the cloud mobile media system. The system contains 3 main digital media contents they're, content suppliers, media cloud service suppliers, and content shopper [9].

- Content Providers: they're liable for making media contents for distribution and consumption. Media contents is generated by skilled producers with digital cameras, or net users UN agency capture videos or pictures with their own mobile devices. however here we have a tendency to area unit interested in capturing the media contents generated by mobiledevices.



- Media cloud service provider: It collects along all the media connected knowledge and store into the cloud. Computation sizes area unit usually comes with super-size storage capability that is distributed across numerous locations and might be request on demand. The space for storing might come back from dense provisioning or thin provisioning. These computing & storage resources area unitinterconnected by a network cloth to formulate a pool of system resources that is shown in below fig.1.

- Content Consumer: They watch videos on completely different media devices like, TV, laptops, goodphone, tablet, etc. via wireless net. the planning for this use case faces an inventory of technical challenges, including:
 - o Mobile devices area unit inherently resource affected .
 - o The property exposed to mobile devices is sometimes inferior to their desktop counterparts.
 - o The expectations of mobile users area unit progressively higher, as a result of options like qualitysupport, interactive support, come back by naturally in non-media connected applications.

There area unit several solutions on the market on net for on top of challenges.

- Mobile cloud edge: This plays a crucial role in connecting resource-constrained mobile devices with resource-rich cloud infrastructure.

Fig. 1. Associate in Nursing end-to-end read of a cloud mobile media network: content suppliers, media cloud service suppliers, mobile access cloud edge (possibly integrated with

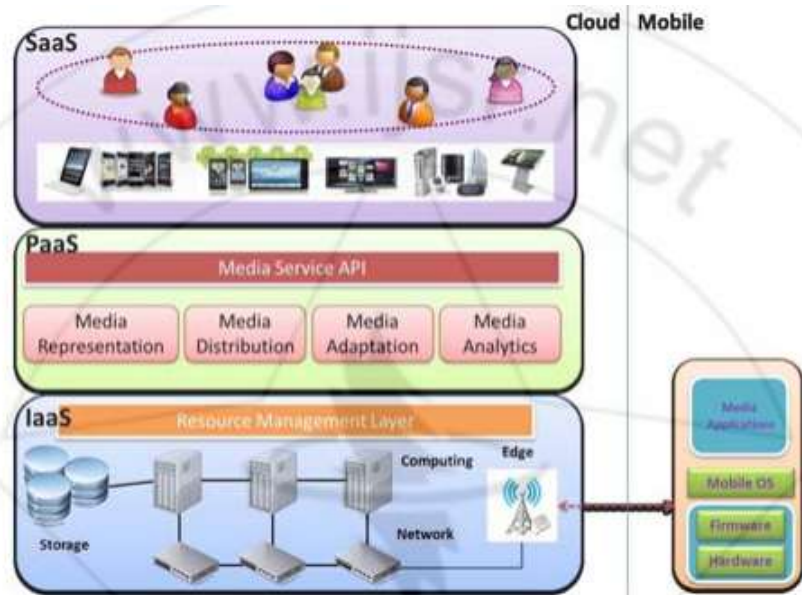
service providers) Associate in Nursing content viewers area unit interconnected via an underlying network infrastructure supported by ICT resources.

2.2. A stratified Service Model

The cloud mobile media system, derived from the definition of Cloud Computing, and it may also be understood in a very stratified service model as shown in below fig.2. during this stratified model,there's no binding between 2 interfacing layers, however in net stratified model, service binding isimplemented between interfacing layers. The stratified read provides a abstract hierarchy in to the cloud mobile media, they're as follows:

1) Infrastructure-as-a-service: during this IaaS layer, data Communication Technology resources area unit pooled along from a hybrid cloud infrastructure. Enabled by virtualization technology[10], cloud service supplier will aallocate these resources in a very fine granular manner, to satisfy user specific demand.

2) Platform-as-a-service: during this PaaS layer, completely different media services area unitwraaped into a layer of middleware, running over raw data Communication Technology



resources or cloud data Communication resources. The cloud mobile media has been classified as media-specific services that area unit in four completely different classes area unit as follows:

- Media Representation: during this, encoding, decoding, and transcoding media contents in numerous instrumentation formats takes place.

- **Media Distribution:** It deals with feat media contents into the cloud, moving them across completely different process units and streaming them to mobile devices.
- **Media Adaption:** This service refers to algorithms and mechanisms that modify the first media content in several domains or fields.
- **Media Analytics:** It refers to algorithms & mechanisms that are unit derived from media contents and in knowledge analytics nature. the foremost celebrated service is that the content search service & its associated data processing algorithms.

Figure 2: A stratified read of cloud mobile media system, consisting of 3 service models (IaaS, PaaS and SaaS). Note that the 3 layers haven't any binding as within the ancient network layering design. during this read, the 3 layers just follow from the 3 service models in cloud computing.

3) Software-as-a-service: during this layer, mobile media applications & contents are unit consumed by viewers in their mobile devices. Basically, these applications contain a light-weight shopper running within the cloud. the planning principle of cloud-based mobile media expertise is to optimally leverage the strengths of each the mobile shopper and also the cloud infrastructure/ service, with Associate in Nursing objective to produce the most effective doable user expertise at all-time low doable price[9].

3. Applications of Cloud Mobile Media

3.1 Storage and Sharing Cloud storage has one sensible advantage that user will access their files from any place with any wireless network device. might|and might} able to share their files with anyone UN agency may access the content at any time. Cloud storage may also provides a far higher level of dependability than native storage.

3.2 Authoring & Mashup Authoring in transmission could be a method of piece of writing segments of transmission contents, whereas Mashup deals with combining transmission contents from transmission sources. Authoring and admixture consumes longer in performing arts its operation and transmission needs a lot of space for storing to store the media connected knowledge. So, cloud computing solves this drawback by creating on-line authoring and admixture simpler, additionally providing a lot of functions to shoppers, because it has a lot of powerful computation and storage resources that are unit cosmopolitan to all or any over.

3.3 Adaption & delivery Video Adaption have vital role in transmission delivery. It changes input videos into output videos consistent with user desires. Video adaption needs great deal of computation power and it's tough to try and do wherever there are unit several

customers requesting at the same time. Cloud computing has robust computing power and robust storage power, and since of this each on-line & offline media adaptation to differing types of terminals is conducted in a very cloud. 3.4 Media Rendering

As cloud computing contains GPU, which may perform interpretation as a result of its robust computing capability. usually there are two styles of rendering. One is to conduct all interpretation in cloud & second is to conduct solely process intensive a part of the rendering within the cloud, network.ijsr.net accredited beneath inventive

Commons Attribution CC BY while the remainder are done on cloud.

4. Conclusion

This survey concludes the study of cloud computing for mobile media with 2 read models that's, End-to-end model and stratified model. additionally the appliance provides the summary of cloud computing advantage of use. On the cloud aware transmission, we have a tendency to self-addressed however cloud-computing resources is utilised by transmission services and applications like storage and sharing, authoring and Mashup, adaptation and delivery, and rendering .

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