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NOVEL REMOTE RENDERING AND MONITORING ON PERSISTENT MOBILE CLOUD

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Abstract— **Cloud computing that offers data management services are emerging. Many mobile applications retrieve content from remote servers. The cloud and mobile serves as the new computing platforms for resource sharing via web. It converges into powerful cloud-mobile computing platform. Here the personal data with various Meta info structures that comes from different web sites and personal computers. Provides a global, unified environment to users and supports user-defined file views via flexible combination of tags. Virtualized screen as a new dimension in such a platform to further optimize the overall computing experiences for users. The cloud that handles the issues of facing the virtual screening, screen rendering, and delivering the screen as images to the client that provides the interaction among cloud users. Further more it provides the enhancement of thin-client mobile devices to get pleasure from computationally intensive and graphically rich services. Some technical aspects are conversed and addressed those issues. There are two cloud-mobile applications, cloud browser and cloud phone, are presented to enhance the virtualized screen.**

***Index Terms*—Cloud storage, remote- mechanism, virtualization, mobile technology and varied browser usage.**

I. INTRODUCTION

The new computing platform that has reached a recent and trendy growth in use of cloud computing. This new paradigm shift enrolls the major activities as sharing resources via web. In the tremendous use of internet services in today's environment clouds services are in need of essential player with tied up activities of internet services. It develops the platform where the computing tasks are done centralized part of the user device at once wherever they access as anywhere at any time on the basis of pay per use strategy.

In this paper, the screen rendering is the major concerned and other ratified activities are drawn. Rendering a screen is basically done on local peripheral devices which can then be delivered as the screen services to the users. The captured screens such as images, audio, video and other files like web hold services. The screen rendering can be displayed as images and inputs are taken and that are nourished to the devices which yields the rendered screen images in other devices.

The screen rendering which are done as local service even this can be put on to the cloud services for enrichment in sharing through web. Previously the images, video and other captured files are rendered from one another. By using the cloud services the screen rendering that are shifted to cloud can make efficient use of hardware and software that leads to a use of low-cost device utilization. The user devices are benefitted with the graphical processing unit processors which screen rendering task that are moved to the cloud makes more effective and produces the rich graphically interactive interface. Some considerations are made such as local processing unit, response time, traffic time, display resolution and network delay.

A scalable virtualization is done partially on client devices and rendered screen images are presented to the user. This is same as in case where the classical cloud computing which the program execution and storage of data can be done at remote cloud or a local devices to feel the computing experience as reliability is added a flexible features to users. There are many circumstances which lead to a problem in accessing a virtual screen on the user devices. Further these issues are resolved by the multimedia and other supporting network technologies.

First on defining cloud API that uses cloud services for screen virtualization may demonstrate that never consider that where the data is actually available, how it is executed and rendered that among the cloud environment. This computing experiences both local and remote cloud success in the computing evolution.

II. DATA STORAGE ON CLOUD

The data storage can be done mainly on two ways among cloud environment

- Non - shared cloud.
- Shared cloud

Non-shared cloud

The users are registered on the cloud that provides a memory space initially and separate compartments are partitioned to the corresponding users as default four separated folders such as audio, video, images and document are created to store the data of the cloud users. The major advantage if this type of cloud is to store and maintain the personal data.

- Images can be uploaded to the image folder and can be viewed, downloaded and can also delete the file.

- Audio files can be uploaded to the audio folder in cloud that can be viewed, downloaded and can also delete the file.
- Video files can be uploaded to the video folder in cloud and that can be viewed, downloaded and if needed can be removed by the user.

- Document such as text files can be moved to the document folder in cloud that can be viewed, downloaded and can be removed if no longer needed.

Shared cloud

The shared cloud can be used by any registered user with their data can be shared to all other registered users.

- Images that are stored in the folders can be shared via web for registered users which they are provided with the basic access such as view and download the files.
- Audio files can be stored in the folder can be shared via web for registered users can access the files through which they can download and view the files.
- Video files are separated in video folder that can be shared via web for registered users can access the files and can be viewed and downloaded.
- Documents can be loaded in the document folder users can access the files and permitted to view and download the files.

III. CLOUD CLIENT SCREEN

In the distributed environment the remote computing and storage resources are hosted to the system as different services of cloud data center. In the cloud-client system the data and the other programs can be stored, loaded and run remotely or locally. The files that are delivered to the clients which is processed locally and sent as the display screen images. This rendering that are separated from the local devices and further is connected via internet to deliver as the cloud service to the cloud client.

The cloud client screen which provides the benefits such as

- The interactive screening device such as television, mobile phones and personal laptops has capabilities to provide the rendering technology.
- It provides an environment with simplified programming model which supports local application.
- A rapid model for software provider to deploy the software services in the cloud environment that enhances the mechanism of screen rendering.

The display images of a screen may contain a vast range of data volume. On updating screen at the side are stable and refreshing each frame sequence in the frame buffer to obtain the screen. Many upgraded technologies fills the breakthroughs of the screen compression and transmission are done efficiently.

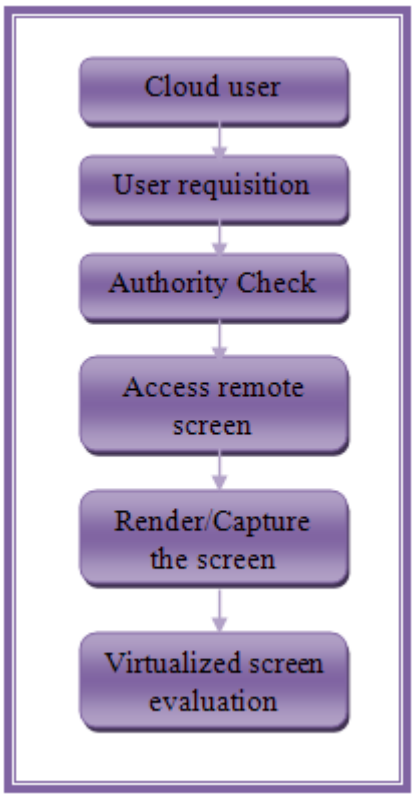

Fig. 1 Flow of the cloud client screen

IV. VIRTUAL SCREEN REMOTING

Conceptually a thin-client, remote- computing system supports to develop the interactive screen-rendering.

System model:

Thin-client: A remote computing terminal used to provide a highly trustworthy displays and interactive response to the users in local machines. There are certain challenges to the thin-client developers to transmit an efficient graphical rich files and other interactive application may relatively in low bandwidth links.

In this paper local thin-client access the local user interface for the clients to use the remote servers that are deployed in the cloud datacenters. The clients send user input to the remote servers and that further transforms and send a screen updates as a response to the client.

Screen model:

The screen update of the desired screen is captured and efficiently compressed using compression techniques and further transmitted to the client. Virtual network computing and remote desktop protocol. Which are represented for the graphics rich thin client system uses a specified sized region. These thin-client systems may allow the server to simplify forward the updates to the compressor and discard other stable areas of the screen. On editing small regions such as control boxes and other menu drives may results to the efficiency degradation in performance of the compression.

On focusing this problem a frame based screen representation model is deployed in the virtual screen model. The virtual screen model of the cloud server motes the pixels of a screen and stored in the frame buffer and puts the screen image which is to be transmitted. The client notifies the screen and replaces the screen with the updated screen without any redundancies. The advantage of this frame-based representation which recovers from errors without any data

loss and retransmission is done by refreshing frame buffer reference of that particular image frame.

Compression scheme:

Screen image which includes web pages, presentations, snapshots, videos and that displays on the screen of personal computers. There are many video compression standards and image compression standards that decide the performance evaluation on the compressing files.

Some factors are considered before compressing the screen is complexity of the compressing screen and performance of the compressed performance.

The complexity of the compressing screen may face the problem which the codec of the screen may hold the massive amount of data that consist of high resolution capability and high screen sizes and updated screen ranges.

The compression performance may consider the text, graphics, images and screen updates in a single compact image as expected desired screen image. The screen updates are efficiently compressed as a cost effective distinct framework.

A given screen image can be categorized into four subparts as even screen area, image, text and text on the image.

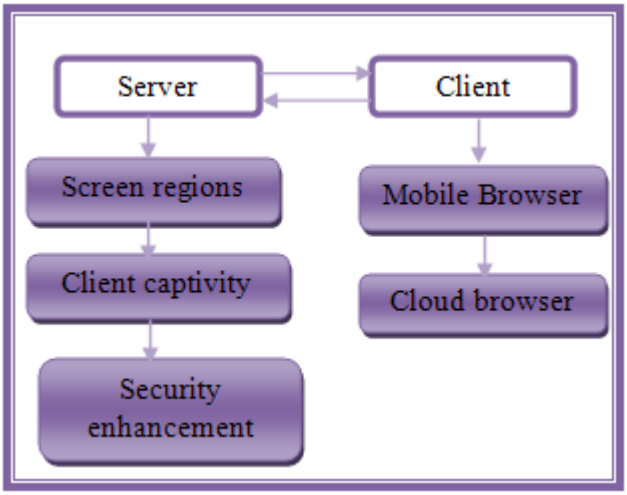

Fig. 2 Process of virtual screen remoting

V. Panel Transmission

Panel transmission is probably the most important factor to user experience in a remote-computing system. Nowadays many screen images are organized as a time-series like video-clips and some existing video-transmission technologies could be leveraged here. The strong dependency between predicatively coded frames makes the video stream sensitive to transmission errors. Therefore, some buffering and error-control mechanisms have to be employed, which causes additional delay on top of the inherent network-transmission delay. Furthermore, interactive screen remoting has much more stringent requirements on latency than real-time video communications. For example, the user usually expects an immediate response on the local display after clicking a button, similar to what would be expected when using a local machine. Achieving this performance requires quick round-trip message processing and almost instant updates between the virtual screen in the cloud and the local display on the device.

VI. Cloud Client Captivity

In the Rapid development of the Internet has facilitated for using remote computing and storage resources hosted by centralized and parallel, machines in a public or private data center of cloud environment. In a typical cloud-client computing design, the data and the program can be stored, loaded, and run remotely and/or locally. To take advantage of the cloud, computationally intensive tasks are usually undertaken in the cloud to generate some intermediate results, which are then delivered to the clients for the creation of a locally processed display screen. In other words, local screen rendering is separated from the data storage and program execution, and is connected to them through the Internet.

VII. Cloud Mobile Cleint

The rapid evolution of mobile computing offers a wide variety of freedom to mobile users. Besides communication functions, a mobile device could be a computing, sensor, control, gaming, and natural-interaction platform. However, it's difficult for a mobile device to serve as a dominant device for all the user's computing needs, mainly because of its limited capabilities in terms of computing, storage, display, and interaction. On the other hand, cloud computing offers unlimited computing and storage capabilities through centralized data centers.

VIII. Screen Virtualization

Thin-client, remote-computing systems are expected to provide high-fidelity displays and responsive interactions to end users as if they were using local machines. However, the complicated graphical interfaces and multimedia applications usually present technical challenges to thin-client developers for achieving efficient transmissions with relatively low bandwidth links. Depicts the proposed thin-client, remote-computing system, which separates the application logic and the user interface for clients to use remote servers deployed as virtual machines in the cloud. The servers and the clients communicate with each other over a network through an interactive screen-remoting mechanism. The clients send user inputs to the remote servers, and the servers return screen updates to the clients as a response.

IX. Conclusion

The computing environment are becoming tremendous in day today life as the people feel comfort in accessing their data on facilitating the internet to share, store, access and maintain. Though the cloud computing environment become more popular some facts that are considered still to make more efficacy on the basis of networking virtually. An evaluation is made on public, private and hybrid cloud and the obstacles are focused. The proxy based adaption schemes that provides the classification to which the system can precisely work and virtual networking environment provides the remote monitoring displays are shared via web. The protocol supports are analyzed and certain issues are focused and resolved. The remote monitoring on cloud is basically transforming the entire local screen to the internet and sharing among each communication ends. Some of the advances may come with the introduction of a new application interface

model between the cloud and the clients. User interaction with the cloud through thin- client cloud communications bounds the user experience and presents many technical challenges. Here in this work it aims at to present the advanced multimedia compression and networking technologies can conduit the devices and the cloud effectively and efficiently, and potentially could help the evolution of cloud computing become a revolution. Furthermore it enhances the foreseeable work to improve the performance factors in the high performance computations in cloud.

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