



SERVICE BASED DATA HANDLING IN MOBILE CLOUD COMPUTING

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ARTICLE INFO

Article History:

Received 17th August, 2018
Received in revised form
19th September, 2018
Accepted 09th October, 2018
Published online 28th November, 2018

Key Words:

SDHMCC,
Saas, XaaS.

ABSTRACT

Mobile cloud computing is one of major mobile technology trends in the future, since it is the combination of both mobile computing and cloud computing. The mobile cloud computing is trendy because of its effectiveness in mobility of the devices. So, the target to design the Service based Data Handling over Mobile Cloud Computing (SDHMCC) is to provide rich mobile computing through seamless communication between front-users (cloud-mobile users) and end-users (cloud providers) regardless of heterogeneous databases situated at cloud environment. The proposed SDHMCC, as a development and extension of mobile computing (MC) and cloud computing (CC), high mobility has been inherited. Using the proposed methodology, flexibility and scalability, with extra feature database integration and multi-tenancy through the service share ability has been provided to facilitate the on demand data accessing within less overhead. As a whole, the proposed approach is able to handle the cloud data in a more efficient way with better performance.

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Citation: Imam Mehemud Hasan. 2018. "Service Based Data Handling in Mobile Cloud Computing", *International Journal of Development Research*, 8, (11), 24101-24103.

INTRODUCTION

The cloud computing is a distributed computing environment over the internet to deliver the cloud data, which is stored in the cloud data storage through different, computing services. For accessing the mentioned cloud data through web services, the delivered software and data storage is provided by the cloud 'XaaS'. In which 'X' stands for Software, infrastructure, Platform, Data or Database. The real or a major value of cloud computing is that it makes your library related software and data available transparently and everywhere including in latest available for devices. The amalgam of mobile computing and cloud computing is in combination introduces a new computing environment, named, Mobile Cloud Computing or MCC. Where by definition, Mobile Cloud Computing is a rich mobile computing technology that leverages unified elastic resources of varied clouds and network technologies toward unrestricted functionality, storage, and mobility to serve a multitude of mobile devices anywhere, anytime through the channel of Ethernet or Internet regardless of heterogeneous environments and platforms based on the pay-as-you-use principle.

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In this paper a graph-based approach called Service Based Data Handling in Mobile Cloud Computing (SDHMCC) is proposed to formalize the flurry cloud heterogeneous data handling approach only through the SaaS model of cloud environment but in interaction only with mobile devices. The proposed graphical approach will facilitate the analysis of service interaction paths through the access of shared of services related to SaaS applications by the group of Tenant supporting the cloud database integration to provide logical integrated view of heterogeneous databases. The interaction path is also helpful in measuring the maximum service share ability and minimum path providing. The proposed approach is expressive to represent such categories of tenants at conceptual level. In general, the proposed approach can also be applicable to any SaaS architectural framework for a cloud environment. In this thesis, in SaaS by incorporating all functional and non-functional features like data availability, data consistency, maximum service share ability, data reusability, data handling flexibility, scalability for handling number of users, database heterogeneity, cost efficiency are overcome here.

Proposed Approach: This paper has proposed a formal representation of service based data handling in mobile cloud computing or SDHMCC and its different aspects over the SaaS service model of cloud environment.

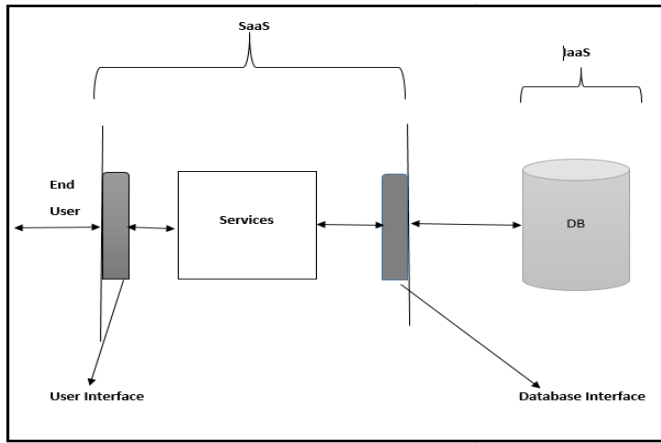


Fig. 1. Block diagram of SDHMCC

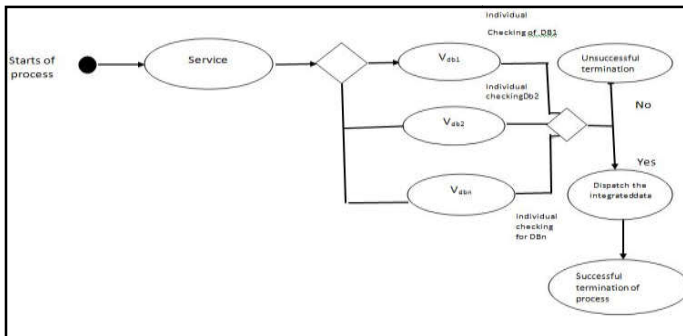


Fig. 2. Activity diagram of SDHMCC

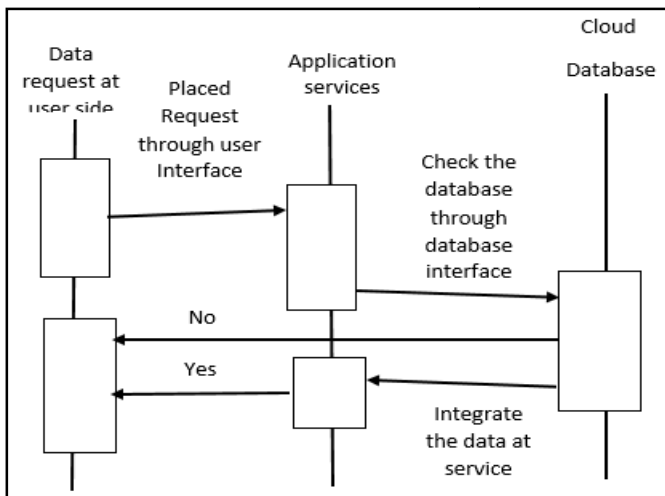


Figure 3. Sequence diagram of SDHMCC

To clarify the proposed approach, a graph-based approach called SDHMCC graph is proposed. The proposed graphical approach facilitates the analysis of service interaction paths through shared sets of services related to SaaS applications to provide the efficient data handling after collecting them from the multiple heterogeneous cloud databases through multi-tenants. The whole scenario of the proposed SDHMCC graph is based on the SaaS architectural framework. A block Diagram of SDHMCC is given below. Activity diagram is used to show message flow from one activity to another. So the purposes can be described as draw the activity flow of a system, Describe the sequence from one activity to another. Above this figure user send a data request to place dataservice through data services interface.after request placed check it by this data bases interface.individual checking happen for each

everycloud databases.after completion of checking if successful the request then integrated data will be dispatched and successfully terminates this program.If the request were not successful then data will not be dispatched after unsuccessful termination. Based on the types of shareability, application level tenants can be classified into several categories, namely isolated tenant, shared tenants with single or multiple data services and multiple tenants.

Conclusion

Mobile cloud computing is one of major mobile technology trends in the future since it combines the advantages of both mobile computing and cloud computing, thereby providing optimal services for mobile users. Recently, cloud computing has created a new research impetus in smart phone augmentation leading to the emergence of mobile cloud computing paradigm. The ultimate goal of SDHMCC is to provide rich mobile computing through seamless communication between front-users (cloud-mobile users) and end-users (cloud providers) regardless of heterogeneous databases situated at cloud environment. With the high increasing of data computation in commerce and science, the capacity of data accessing has been considered as a strategic resource in many countries. In DHMCC, as a development and extension of mobile computing (MC) and cloud computing (CC), high mobility has been inherited. Using the proposed methodology, flexibility and scalability, with extra feature database integration and multi-tenancy through the service share ability has been provided to facilitate the on demand data accessing within less overhead. To provide multi-tenancy and database integration through shared services, less number of services has been taken to provide users requested data. In which multiple number of group of users or ‘tenants’ can access same data at a particular time from the single source of data storage not from any cloned storage. This supports scalability by increasing or decreasing the number of users. On the other hand database supports the data accessibility of multiple types of data from the heterogeneous databases. This one supports the data usage flexibility. Because of overall service based implementation, the proposed one is cost efficient than others. As a whole, the proposed approach is able to handle the cloud data in an more efficient way with better performance.

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