

Automatically Allocates the Service Resources for Mobile Devices

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ABSTRACT

Cloud computing in the present day world, has grown up as a paradigm for hosting and operating services over the Web. Mobile Cloud Computing is widely acknowledged as a concept that can heavily improve the user experience when accessing mobile services.

In the Social Network Service (SNS) consist of lot of social media contents from numerous users. For e.g. SNS based on mobile and hand devices such as FB (Face book), and Twitter is used a lot by users because of the progression of Internet as well as the explosion of mobile network. By removing the cons of mobile devices with respect to storage and computing capabilities and implementing a new level of security, it is expected that it will find broad acceptance on the business as well as consumer side. This work mainly concentrates to construe the mobile devices and applications during offloading of services between cloud and devices to minimize energy. In addition, the minimal path to the cloud servers from mobile devices will be carried out to minimize the network latency.

To overcome the above limitations, in the cloud computing IMAV(Intelligent Multi Agent Virtualization) model is used. By using this model to automatically allocate service resources suitable for mobile devices in cloud computing environment with support of Social Network Service (SNS).

Key Words: *Cloud Computing, Automatically Allocate Resources, Virtualization.*

1. INTRODUCTION

The Mobile Cloud Computing is like a revolution for communications and access of data with minimum energy and less turnaround time. The idea of Mobile Cloud Computing plans to bring the pros of Cloud Computing accessible for mobile users as well as accommodating extra specialties to the cloud.

Other advantages that could be realized by the introduction of Mobile Cloud Computing are increased security range for mobile devices accomplished by a centralized monitoring and maintenance of software, and a single point of

contact to go for users of mobile devices since Mobile Cloud Operators can concomitantly act as virtual network operators, render e-payment services, and render software, data storage, etc. as a service. As security plays a crucial role in today's web world. Along with the benefits taken in by wireless network, mobile environment confronts more challenges.

There have been two problems while allocating the resource in the social network services. They are

- ✓ Need to keep on monitor the service resources and according to the availability of resources, the admin can allocate the resources to end users.
- ✓ By using this way the server and network load will be increase.

By using the virtualization rules that automatically allocates service resources suitable for mobile devices in cloud computing environment supporting social media services. According to the type of usage, the service can be provided to the end-user on-demand and re-adjusts service resources with high reliability.

2. Mobile Virtualization in Cloud Computing

The technique in mobile cloud is virtualization. Because this support various real time services. The main purpose is to provide suitable services to users by using resources such as processor, memory, storage and applications offered from server due to the fact that multiplying power related to physical resources of mobile devices is insufficient.

2.1 Multi-agent in Cloud Computing

Multi-agent is a computerized system has a knowledge base for learning users behaviour as well as the function to infer purposes according to services. The main structures are autonomy, intelligence, mobility and social ability.

2.3 Design of Intelligent Multi-Agent Model for Resource Virtualization

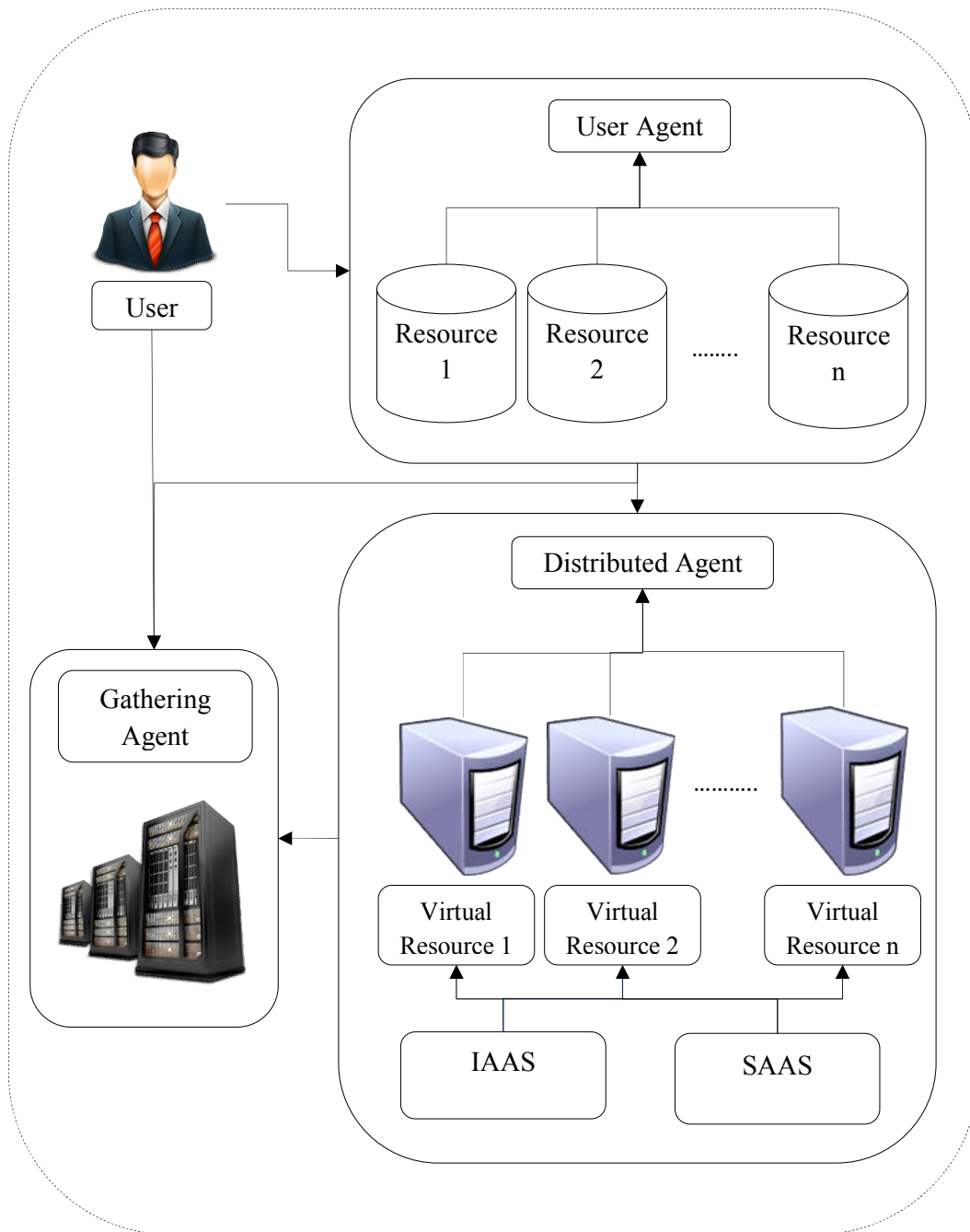


Figure1.1: IMAV (Intelligent Multi-Agent Model for Resource Virtualization)

Ref.Doc: Hyogun Yoon, Hanku Lee, "An Intelligence Virtualization Rule based on multi-layer to support social media Cloud service, CNSI 2011. In this model [3] SNS based services has been configured by using the virtualization rules

and according to the user's behavior the resources managed and allocated. In the mobile cloud service, SNS services are provided by using the mobile devices. Log files including personal information, service history and request signal for accessing the cloud service has been managed by using the mobile agents. This mobile agent is used to record these log files and manage the location information.

3. User Agent

The main function of the user Agent is

- ✓ To collect information from mobile agent.
- ✓ According to the user situation, it analyses the connection for virtualization and Service, access type of social network applications to the end user.
- ✓ Then analyzed information becomes the data for user actions and their virtualization.
- ✓ By this way the service type and access can be grasped via Social network applications and the information is provided into user environment.
- ✓ This service has been offered from agent manager to distributed agent.

4. Distributed agent

After collecting the information from User Agent the distributed agent will do the following tasks.

- ✓ It allocates social cloud service between users and services via virtualization register.
- ✓ User agent context information is used by distributed agent from user agent and it contains coefficient of determination and decides service to be provided users.
- ✓ This virtualization information contains with virtual ID and register.
- ✓ It sends user states and monitoring the information by using the virtualization rule depending to time of the agent managers.

5. Gathering Agent

The gathering agent [3] is to gather service information and social media data necessary for systems. So that it provide social media service and their data to registered applications in cloud system. The scope of gathering data is restricted within social sites such as Blog & Micro-Blog, SNS and News.

5.1 Agent Manager

- ✓ The main role of agent manager is to manage creation, registration, event and deletion of each agent and offers knowledge-base to each agent, monitoring the whole agents according to types of usage of social service resources. It includes the ability to control activity of each agent.

Functions:

- ✓ To record event state and value between agents as well as to provide fault data of system to administrators.
- ✓ It takes only relational information from user log information and context information from user agent and decides the event of creation of distributed agent and service items to the end users.
- ✓ All the events are occurred to the system time line.

5.2 Virtualization Register

- ✓ Virtualization register is secondhand to accomplish the virtualization information of Social resources and dispersed by through distributed agent.

- ✓ Frequently it analyses log information of virtualization and supporting proficient management of system resources.
- ✓ Also it co-ordinate with distributed agent and to manage the log data. This log data register consists of virtualization resource ID, lists of service resource, priority information and correspondence weight. By using this weight, we can decide the priority of system resources provided to users.
- ✓

5.3 System Resource Manager

- ✓ It controlled the recorded information lists of virtualization register.

Function:

It controls the management of resources and the correlation information of virtualization register. So the admin can get the distributed monitored state by resource manager by directly or indirectly. Also capable to monitor and accomplish physical and logical resources of cloud computing system. Depending upon the resources high and low availability the system resources and corresponding domain has been decided.

6. CONCLUSION:

In this document there is a clear picture of what the problems are and how they can be overcome in a clear manner in Mobile cloud environment by using the multi agent virtualization model. It also gives an idea on how the cloud could work at its best.

As the topic of mobile cloud environment is vast and there is always scope for improvement. Modifications can be made depending on the latest technologies available as the field of cloud and mobile is fast growing. Finally, the users are able to use reliable services because multi-agent model provides appropriate services for users depending on user situation.

GLOSSARY AND ABBREVIATIONS:

SNS –Social Media Service, DB - Database: This is used throughout the document for better readability.

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