



# SAAS - THE MOBILE AGENT BASED SERVICE FOR CLOUD COMPUTING IN INTERNET ENVIRONMENT

CHITRA.M<sup>1</sup>, BHARATHI.R<sup>2</sup>

M.Tech Student Department of Computer Science and Engineering, PRIST University Pondicherry, India<sup>1</sup>

Assistant professor Department of Computer Science and Engineering, PRIST University Pondicherry, India<sup>2</sup>

**Abstract:** Current cloud computing systems continuously specialist in the high information measure native space network setting, for instance, Associate in nursing local area network of a company. This paper uses mobile agent to implement the software package and knowledge service for cloud user in web setting, and create the cloud automatic data processing system all-mains to figure in web setting, like a global corporation with branches everywhere the planet. The works during this paper includes 3 parts: (1) introducing mobile agent into cloud automatic data processing system Associate in Nursing presenting the mobile agent primarily based service for cloud computing system: Service as an Agent Service). The SaaS uses mobile agents because the underlying facility to supply the service for user; (2) presenting a high performance code and knowledge of service load mechanism primarily based mobile agent for SaaS, which might effectively cut back the serious communication overhead in Internet; (3) presenting a unique knowledge coherence mechanism for SaaS: Divided-Cloud and focused Coherence Mechanism (DC CM). The applying of mobile agent permits SaaS to be additional appropriate to figure in web setting than typical cloud automatic data processing system.

**Keywords:** Cloud, course, education, evaluation.

## I.INTRODUCTION

Cloud computing could be a paradigm that focuses on sharing information and computations over a ascendible network of nodes. Samples of such nodes embody user computers, information centers, and internet services. Such a ascendible network of nodes is named cloud. Associate application supported such clouds is taken as a cloud application. A computing cloud could be a large network of nodes. Thus, measurability ought to be a high quality feature of the computing cloud. the foremost vital measurability is Horizontal cloud measurability, that is that the ability to attach and integrate multiple clouds to figure jointly logical cloud. as an example, a cloud providing calculation services (calculation cloud) will access a cloud providing storage services (storage cloud) to stay intermediate results. 2 calculation clouds may also integrate into a bigger calculation cloud. Measurability ought to be clear to users. as an example, users could store their information within the cloud while not the necessity to grasp wherever it keeps the information or however it accesses the information. for instance, each cloud has solely a finite quantity of physical storage entities. Therefore, a cloud c1 could get facilitate from another cloud c2 for shared storage entities to meet some demands on storage. Such sharing demand could end in the information to migrate among multiple clouds. Nevertheless, the cloud user mustn't remember of the distributed storage of the information. as an example, once the keep information has to be accessed, the user could directly retrieve it from the cloud c one. Then c1 is liable for gathering the information from each c one and c2, and returns the collected information to the user. The cloud provides location transparency to applications. The cloud information storage and access may have not solely intra-cloud communications, however conjointly inter-cloud

communications. that's to mention, the cloud information needn't solely be accessed during a computer network, however conjointly migrate in WAN.

In computer network surroundings, cloud computer system will use Remote Procedure decision (RPC) or Remote technique Invocation (RMI) because the underlying facility, to implement the service directory coherence and repair migration. RPC and RMI can do sensible performance in computer network, however isn't appropriate for net or WAN. Mobile agents on the net or WAN have the characteristics as follows: Autonomy, temperament, Communication, Mobility, High Performance and Fault tolerance. Mobile agents square measure chiefly supposed to be used for applications distributed over wide space (slow) networks as a result of they will save communication prices by moving the resource and repair to the remote target surroundings that is close to the user.

## II.PROPOSED SYSTEM

The Proposed system provide a code and data of service load mechanism based mobile agent and divided-cloud and convergent coherence mechanism of SaaS, which can effectively reduce the heavy communication overhead in Internet. These features above enable SaaS to have good flexibility, adaptability and usability and to be more suitable to work in Internet.

## III.MODULE DESCRIPTION:

### A. SaaS (Software as a Service):

Software or an application is hosted as a service and provided to customers across the Internet. This mode eliminates the need to Install and run the application on the customer's local computers. Software as a Service



(SaaS) is a software distribution model in which applications are hosted by a vendor or service provider and made available to customers over a network, typically the Internet.

SaaS is becoming an increasingly prevalent delivery model as underlying technologies that support Web services and service-oriented architecture (SOA) mature and new developmental approaches, such as Ajax, become popular. Meanwhile, broadband service has become increasingly available to support user access from more areas around the world.

SaaS is closely related to the ASP (application service provider) and On Demand Computing software delivery models. IDC identifies two slightly different delivery models for SaaS. The hosted application management (hosted AM) model is similar to ASP: a provider hosts commercially available software for customers and delivers it over the Web. In the software on demand model, the provider gives customers network-based access to a single copy of an application created specifically for SaaS distribution

#### *B. WA (Working Agent):*

WA accepts the instruction from IA, and packs the software and the data to move to the target domain server to execute the operation, and then return the result of execution. WA accepts the instruction from IA, and packs the software and the data to move to the target domain server to execute the operation, and then return the result of execution. The models simulate the simultaneous operations and interactions of multiple agents, in an attempt to re-create and predict the appearance of complex phenomena. The process is one of emergence from the lower (micro) level of systems to a higher (macro) level. As such, a key notion is that simple behavioral rules generate complex behavior. Is extensively adopted in the modeling community. Another central tenet is that the whole is greater than the sum of the parts. Individual agents are typically characterized as boundedly rational, presumed to be acting in what they perceive as their own interests, such as reproduction, economic benefit, or social status, using heuristics or simple decision-making rules. ABM agents may experience "learning", adaptation, and reproduction

#### *C. DMA (Domain Manage Agent):*

DMA is responsible for domain management in a domain. DMA can duplicate itself and actively move to target server in order to be close to the data to gain higher processing performance. This document is meant to facilitate discussion of the design of the AS 7 domain management features. It is not a list of requirements; for that see the requirements document. The intent of this document is to focus more on how we see those requirements being realized.

#### *D. MMA (Main Management Agent):*

MMA is responsible for the management and coordination of all DMAs in SaaS. MMA and DMA can cooperate with each other to accomplish the management in SaaS. A Management agent is a software agent that runs on a managed node (example: a router) and provides an interface to manage it. It can perform operations on

managed objects in the node and can also forward notifications to the manager (EMS). The agent software usually resides in the flash memory of telecommunications devices.

#### *E. DCS*

Reducing the network communication for managing data lock and duplicating the data buffer, particularly the communication in WAN. MCS do not need to maintain the lock state of every user, but only need to maintain the lock state of all DCS. Hence, converging can reduce effectively the overload of the maintaining the lock state. can get the code from MCS and stores them in local buffer. These codes in DCS can be used by the agents in own domain. In the worst condition, the code an agent need is not on both local host and DCS, so the code must load from MCS. DCS and host are composed into a dynamic hierarchical code loading mechanism. This mechanism can make mobile agents work as best as it can to load codes from local host or local domain, and then the load latency is low.

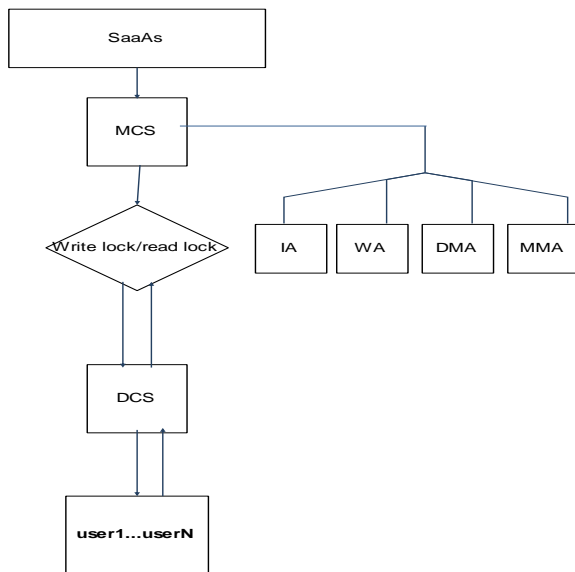
#### *F. Data as a Service (DaaS):*

Data in various formats and from multiple sources could be accessed via services by users on the network. Users could, for example, Manipulate the remote data just like operate on a local disk or access the data in a semantic way in the Internet. In cloud computing system, the cloud user should not be aware of the distributed storage of the data .user in cloud I want to access the data; he will directly retrieve it from the cloud1. Then cloud1 is responsible for gathering the data from both cloud1 and cloud2, and returns the collected data to the user. The cloud provides location Transparency to applications.

Data provided as a service was at first primarily used in web mashups, but now is being increasingly employed both commercially and, less commonly, within organizations such as the Traditionally, most enterprises have used data stored in a self-contained repository, for which software was specifically developed to access and present the data in a human-readable form. One result of this paradigm is the bundling of both the data and the software needed to interpret it into a single package, sold as a consumer product. As the number of bundled software/data packages proliferated and required interaction among one another, another layer of interface was required. These interfaces, collectively known as Enterprise Application Integration (EAI), often tended to encourage vendor lock-in, as it is generally easy to integrate applications that are built upon the same foundation technology

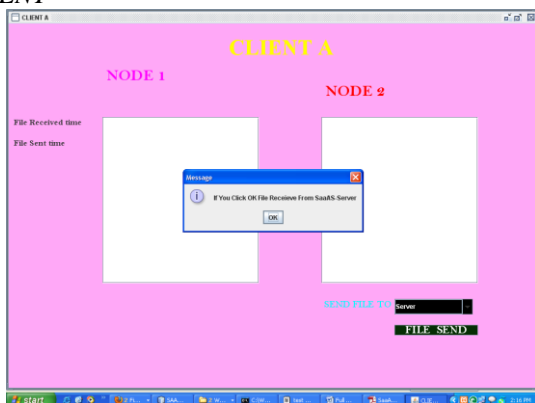
The result of the combined software/data consumer package and required EAI middleware has been an increased amount of software for organizations to manage and maintain, simply for the use of particular data. In addition to routine maintenance costs, a cascading amount of software updates are required as the format of the data changes. The existence of this situation contributes to the attractiveness of DaaS to data consumers because it allows for the separation of data cost and usage from that of a specific software or platform.

#### IV. DIAGRAMS

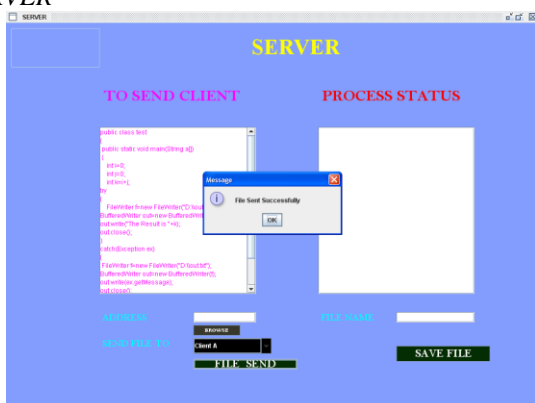


#### V. SCREEN SHOTS

CLIENT



SERVER



#### VI. CONCLUSION

The cloud computing system can not only work in Intranet but also work in Internet. For the unstable bandwidth and long transfer delay of Internet, the mobile agent is a better underlying facility to implement the software and data migration in wide area cloud computing system. The Mobile Agent based Service for Cloud Computing in

Internet Environment (SaaS) is presented. The code and data of service load mechanism based mobile agent and divided cloud and convergent coherence mechanism of SaaS are also proved. In conclusion, the application of mobile agent enables SaaS to have good flexibility, adaptability and usability and to be more suitable to work in Internet than conventional cloud computing system. By using the agent rather than RPC/RMI as the underlying facility to implement the software and data migration, SaaS is more suitable to the cloud computing system which works in Internet. In conclusion, the application of mobile agent enables SaaS to have good flexibility, adaptability and usability and to be more suitable to work in Internet than conventional cloud computing system.

#### REFERENCES

- [1] Global Cloud Computing Research Test Bed Wiki [URL]. <http://cloudtestbed.org/>.
- [2] IBM Blue Cloud project [URL] <http://www03.ibm.com/press/us/en/pressrelease/22613.wss/>.
- [3] Lijun Mei, W.K. Chan, and T.H. Tse, "A tale of clouds: paradigm comparisons and some thoughts on research issues", in Proceedings of 2008 IEEE Asia-Pacific Services Computing Conference (APSCC 2008), pp.464-469.
- [4] Cloud computing. Wikipedia. Available at [http://en.wikipedia.org/wiki/Cloud\\_computing](http://en.wikipedia.org/wiki/Cloud_computing).
- [5] K. Hartig. What is cloud computing? SOA World Magazine. Available at <http://soa.sys-con.com/read/579826.htm>.
- [6] R. Wang, T. Anderson and M. Dalin, "Experience with a distributed file system implementation", Technical report, University of California, Berkeley, Computer Science Division, June 1997.
- [7] L. Ismail and D. Hagimont, "A Performance Evaluation of the Mobile Agent Paradigm", ACM SIGPLAN Notices, October 1999, 34(10), pp.306-313.
- [8] P.S. Narayanan. From grid computing to cloud computing: the IBM approach. Garuda Partner Meet, Bangalore, India, March 4, 2008.
- [9] Web services business process execution language version 2.0. Available at <http://docs.oasis-open.org/ws-BPEL/2.0/ws-BPELv2.0.html>.
- [10] K. Hartig. What is cloud computing? SOA World Magazine. Available at <http://soa.sys-con.com/read/579826.htm>.
- [11] C. Lee, S. Ko, S. Lee, W. Lee, and S. Helal. Context-aware service composition for mobile network environments. In Ubiquitous Intelligence and Computing, volume 4611 of Lecture Notes in Computer Science, pages 941-952. Springer, Berlin, Germany, 2007.
- [12] L. Ismail and D. Hagimont, "A Performance Evaluation of the Mobile Agent Paradigm", ACM SIGPLAN Notices, October 1999, 34(10), pp.306-313.

#### BIOGRAPHIES



**Mrs.CHITRA.M**, Presently Pursuing Final Year M.TECH CSE, In PRIST University, Puducherry Campus, Puducherry, India.



**Ms.BHARATHI.R**, Received The M.Tech In Computer Science And Engineering. Presently she is Working Assistant Professor in Computer Science and Engineering at PRIST University, Puducherry Campus, and Puducherry, India.