Litrature Survey on Collaborative Cloud Computing For Sharing Resource in Trustworthy Manner

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ABSTRACT: Collaborative Cloud Computing (CCC) is the very new technique which makes the promising and secured way of transmitting the data over distributed cloud servers; the main objective for developing CCC is to create collected and cooperative development over cloud service providers Collaborative Cloud Computing method uses two different types of mechanism for activating the cloud server they are resource management and reputation management technique therefore we can avoid over node of traffic congestion hence we can generate high quality of double bandwidth over node. In the previous research work a single value will be added to the reputation management so that it can represent every node with the unique ID, even though the value has been assigned to the every node the server could not able to identify resources to individual types of user's therefore QoS (Quality of Service) could not able to meet by the resources selection allocator. In order to find the solution for the problem we proposed new a method called Harmony in the Collaborative Cloud Computing platform. Harmony method used to access the resource and reputation technique with help of three different types of key value search method they are as follows, integrated multi – faceted resource/reputation management, multi – QoS oriented resource selection process and price – assisted resource/reputation control technique. Data has been traced out from different online trading platforms like EBay, Amazon, etc in order to implies major drawbacks in multi – faceted reputation and higher reputed selection of nodes in the cloud servers hence trace driven and simulation method is implemented and executed in the plant lab for getting trustworthy of sharing the resource management and reputation management in the Quality of Service (QoS). In this survey paper we compared various research parameters for Collaborative Cloud Computing (CCC).

KEYWORDS: Resource Management, Reputation Management, Distributed System, Distributed Hash Tables, and Cloud Computing.

I. INTRODUCTION

Cloud computing became one of the most important platform for the cloud providers in order to install the cloud providers in the virtual manner via Internet to the customer. Cloud customer all over the world exchange their data with high range of computing resources, secondary level of data storage with high bandwidth. Hence the ongoing demand for demand for the scalable resources is very popularly increasing between the cloud customers. Therefore single cloud server could not able to detect and connect with high range of capacity to the application during run time. Hence the researchers are in need to build virtual lab environment for connecting the multiple cloud server thus advancement research leads to the collaborative cloud computing (CCC). CCC is used to collectively distribute the resources for the cooperative manner to make services from different organization and CCC platform used to inter connect many different types of desktops in an virtual organization manner hence if the cloud providers doesn't able to find the sufficient resources form the particular server then the cloud server switches to some other cloud applications.

Collaborative Cloud Computing involves thousands or millions of cloud resources from various parts of the world in the distributed formats; hence this environment makes use of efficient resources Management (resMgt) and different types of nodes may provide resources for the development of Quality of Service (QoS). Cloud nodes has the different types of security threats from viruses and Trojan horse programs this kind weakness is revealed by Google, IBM, and Amazon. Thus Resource Management and Reputation Management are used to provide QoS performance in the selecting trustworthy manner. The efficient and effective successful way of connecting the cloud server in the trustworthy manner in three workforces: efficiently locates most trust able resources offered by cloud customer,

choosing the resources from capable person, and fully utilizing of resources from any other system. In this paper we proposed method called Harmony which make cloud node to locate to the desired locations and also connects to the liable transformation based on the reputation of the location based for providing resources.

The layout of the paper is as follows. In section 2, we address the above mentioned techniques and also give a brief on the literature being reviewed for the same. Section 3, presents a comparative study of the various research works explored in the previous section. Lastly, we concluded in section 4 and section 5 is provided references.

II. RELATED WORK

In this paper [1] CTrust framework addressed for the security purpose by connecting various kinds of Virtualization Technology (VT) process in order to access resources like storage, network, and software. Secure Hypervisor framework (SecHYPE) makes the root trust for the cloud running application. Currently cloud computing techniques mostly used in e-commerce, online auctioning companies even though cloud computing connecting different types of system without regarding underlying architecture of computer system security issues is the major threat in the cloud computing. The National Institute of Standards and Technology (NIST) makes the research in the field of security as a primary concern on the cloud computing. Software abstraction has been used to create hardware and operating system coupling each other in order the cloud applications. This paper gives the detailed information about security analysis, system analysis, and cryptographic key management.

In this paper [2] makes the detail study about internet security problems, the major security problems are worms, spam and phishing attacks. In order to overcome the following problem they proposed Unified Threat Management (UTM) which is used to module and connects different types of networks. Intrusion Detection System (IDS) evolved quickly to the Distributed Denial of Service (DDoS) strings for identifying the signature steps to detected viruses. Collaborative Network Security Management System (CNSMS) creates the new integrated environment for developing Unified Threat Management (UTM). This paper mainly focuses on the security centre for the traffic data analysis and process to store large amount of data.

In this paper [3] Collaborative Cloud Computing is used to support very promising trends in cloud information extraction techniques. Retrieving of information from the different user is not that much possible and easy hence we could access data directly from the storage devices by using Neural Network (NN) based system. Artificial Neural Network (ANN) mechanism tends to activate the inputs function with the help of output values this technique used to get the information at the same time without any kind of additional efforts. This paper makes use of the learning system based on the Neural Network which reduces single point failure and removes all the problems lying in the cloud computing hence it gives out efficient and effective extraction of information for the collaborative cloud computing.

In this paper [4] Use of cloud computing with the collaboration of Multi cloud environment where cloud providers access software, platform, and infrastructure as the pay per use basis and gaining huge attention as per industrial expectations. The user used to gain the access to the cloud services but at the same time user gets vendor lock in therefore user as to access particular cloud service providers for low cost management to authentication to multi service providers. Security issues generated with the mash up centre should be around the service providers while implementing nodes on the cloud server. The main issues in the multi cloud environment performing task on the distributed service hence the collaboration framework for multi cloud system can be implemented. Different types of proxy techniques like proxy based framework, cloud hosted proxy, Peer to Peer proxy, and on – premise proxy are used for the security issues. This paper describes various research parameters on the multi cloud environment in order to provide low cost functionalities.

In this paper [5] cloud computing providers gives the bigger opportunity in order to deploy complex information technique as the infrastructure to the end user. Therefore cloud service needs very strong cloud control frame work which can orchestrate cloud resources like utilization, configuration, provisioning and decommissioning around physical resources. Infrastructure as a Service (IaaS) environmental model provides Virtual Machine (VM) as an operating system and hence make cloud server as the sophisticated combining virtual private cloud instance. This paper used to advocate a data centric approach for the cloud resource orchestration. Orchestration data format are structured and defined by using transactional semantics.

In this paper [6] cloud computing becomes very popular on the internet based paradigm hence cloud services provides users with IaaS (Infrastructure as a Service), Paas (Platform as a Service), SaaS (Software as a Service) but internet application might be still challenging for the cloud computing. While data centres is very much important to the internet services for providing Quality of Services (QoS). When the concurrency of Internet services burst beyond the data centre capacity, QoS cannot be ensured. This paper they focused on the internet based Virtual Computing Environment (iVCE) which is used to connect data centre and cloud computing resources. They designed and implemented the iVCE software model in order to provide economical cloud services.

In [7] the authors have proposed mercury designed for a scalable protocol to support multi attribute searches and explicit load balancing. Query conjunction ranges in more attributes which is not presented on the wild cards. They developed two important aspects for the query designing principles. First, Routing hub is created by multi attribute queries for the each attribute, queries are passed to one hub which is corresponds to the attributes, and a new data has been sent to the entire hub in the associated format. Secondly, In order to support queries, mercury used to organize routing hub circular way for contiguously ring (ie) each attribute as a very high range of values for each node. A load balancing algorithm ensures load to be routed in the uniformly manner which is distributed across to different types of participating nodes. This paper help us to show how the mercury as been used to solve key problems for the distributed applications.

In [8] the authors have proposed Peer to Peer (P2P) reputation system which is used to perform trust able participation on the Peer data distribution which is used to feedback global reputation scores. Developing the decentralized server in the reputation method is very difficult because most of the Peer to Peer (P2P) application works on the unstructured internet platforms therefore it a huge challenge to perform unstructured reputation in the Peer to Peer (P2P) computing. In the traditional reputation system, when the peer used to complete transaction it makes the global reputation scores by computing local rates (ie) feedbacks hence reputation technique used to make decisions based on the trust. This paper they introduced new method called Gossip Trust which is used computes the reputation scores concurrently by all the nodes, result of the following experiments demonstrate overhead, storage, and scoring accuracy in the unstructured Peer to Peer (P2P).

In this paper [9] they described a detailed study about how cloud computing can be used to deployed to perform by orchestration in an very high complex set of sub system operations like storage, allocation of the resources to the network. In order to process the following process they introduced technique called Cloud Orchestration Policy Engine (COPE) in a distributed platform for the automated resource orchestration. COPE gives cloud server a detailed description about objectives and customer requirements in a policy specification methodology. This paper they have given new technique that how they integrate current result with the cloud orchestration environment of COPE (Cloud Orchestration Policy Engine).

In this paper [10] Peer to Peer (P2P) online networking is the most efficient platform at the same time very much security threat is generated hence trust worthiness should be maintained around the cloud server environment this paper gives elaborate study and present detail of reputation based PeerTrust mechanism for comparing and quantifying data based on the feedback engines and implementation of such model over structure Peer to Peer (P2P) network. Authors have introduced three types of trust parameters like feedback in terms of amount of satisfaction, number of transaction, and credibility of feedback and they described two types of adaptive factors like transaction context factor, and community context factor hence these two techniques trust parameters and adaptive factors used to compute peers trustworthiness. Trustworthiness is based on following fact received peer from other peers and total number of transferred peers. Secondly they defined combination trust metric with the following terminology.

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III.COMPARTIVE STUDY

We have analysed the various research works on several parameters and presented their comparison in the table below.

Table1. COMPARISON OF VARIOUS RESEARCH WORKS

Sl.No	TITLE	AUTHOR	ISSUES	METHOD USED	TOOLS	ADVANTAGES/ DISADAVANTAGES
1	CTrust: A Framework for secure and trustworthy application execution in cloud computing.	Satyajeet Nimgaonka Srujan Kotikela Mahadevan Gomathisankaran	ISBN 978-1-62561-001-0	CTrust frame Secure Hypervisor framework (SecHYPE)	Virtualization technology (VT) Virtual Machine Monitor (VMM)	**Advantages:** 1. Cloud computing allows multiple users to share their data. 2. CTrust helps to develop security paradigm. 3. SecHYPE framework provides security implementation. **Disadvantages:** 1. High Security threat provides hindrance to the customer.
2	Cloud computing – based forensic analysis for collaborative network security management system.	Zhen Chen Fuye Han Junwei cao Xin Jiang Shuo Chen	TSINGHUA SCIENCE and TECHNOLOGY ISSN 1007-0214 05/12 pp 40-50 Vol-18, no-1, Feb 2013	Distributed Denial of Service (DDoS). Unified Threat Management (UTM). Collaborative Network Security Management System (CNSMS)	Cloud computing. Amazon web service. Hadoop file system.	**Advantages:** 1. CNSMS used for the counter measure attack in the distributed manner. 2. Explore very large amount of collected data using CNSMS. 3. UTM used to analyze the data in distributed manner. **Disadvantages:** 1. Network traffic is very much congested over the nodes. 2. High security events.
3	An efficient information retrieval approach for collaborative cloud computing.	B.Hema Mrs.R.Hemalatha	ICMACE-14	Collaborative Cloud Computing (CCC). Neural Network (NN). Quality of Services (QoS)	Collaborative organization (goolge, IBM, Amazon) Memo Random of Understanding (MOU)	**Advantages:** 1. Integrated retrieval of information management. 2. Interactions between trustworthy resources and efficient among clouds. 3. High quality of QoS is measured. **Disadvantages:** 1. Retrieving of the information from different user is very much difficult.
4	A review of collaboration	Swaraj P.Thakre.	IJAIEM	Elastic Compute	Cloud service provider.	**Advantages:** 1. Provides scalability,

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	of multi-cloud- An effective use of cloud computing.	Prof R.Chopde	Vol 2, Issue 3, Mar 13.	Cloud (EC2). Software as a Service (SaaS). Virtual Machine (VM).	Proxy based framework.	flexibility for the storage of data. 2. Provides the customer paying money for the amount data has been used. 3. Data center uses Virtual Machine (VM) for the isolation process. **Disadvantages:** 1. Deployment of VM is very much costlier. 2. Virtual infrastructure determines provision over/under performance.
5	Cloud resource orchestration: A data centric approach	Chanbin Liu Yun Mao Jacobus E. Vander Merwe Mary F.Fernandez	CIDR 11 Jan 9-12, 2011.	Data centric management framework. Infrastructure as a Service (IaaS).	Virtual Machine (VM) Service Level Agreements (SLA).	**Advantages:** 1. Advanced cloud services used to share complex operation like storage management, fault management, image management etc. 2. Orchestration creates management and manipulation of the resources. 3. Data Centric Management Framework (DMF) provides well defined semantic for accessing the data. **Disadvantages:** 1. Sophisticated cloud services needs dynamic orchestration for the service abstraction.
6	Internet – based virtual computing environment beyond the data centre as computer.	Xicheng Lu Huaimin Wang Jiwang Jie xu DongSheng Li	Doi:10:1 016/j. future. 2011.08. 005	Internet based Virtual Computing (iVCE) Quality of Service (Qos)	Multi – scale resources management.	**Advantages:** 1. Service pattern and capability for the data center as the limited resources. 2. Cloud computing techniques uses its own possible senarious **Disadvantages:** 1. Fail to match large scalability and utility for the new internet application. 2. Different types of internet service are very highly related to each other hence they could not able to reach their peaks one at the same time.

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7	Mercury: Supporting scalable multi attribute range queries.	Ashwin R. Bharambe Mukesh Agrawal Srinivasan Seshan	SIGCO MM.'04, Aug30 – Sep3, 2004 Portland Oregon USA. ACM 1-58113-862-8/04/0008		Web Caching. Distribute Hash Table(DHT) Multicast Routers	**Advantages:** 1. Easy to use. 2. Reduces game's messaging overhead when compared to the native approach. 3. Efficient routing and load balancing is generated by using mercury technique. **Disadvantages:** 1. Based on the past database insertions query value as been predicated for estimating reducing query by algorithm.
8	Gossip – based reputation aggregation for unstructured Peer to Peer networks.	Runfang Zhou Kai Hwang	(IPDPS 2007) Long Beach CA. March 27-29, 2007.	GossipTrust Peer to Peer (P2P) Reputation system.	Global reputation scores technique. P2P file sharing networks. Root mean square (rms).	**Advantages:** 1. GossipTrust extends gossip protocol for the aggregation reputation. 2. Very fast local trust scores in the global reputation. **Disadvantages:** 1. Development of decentralized reputation is very much great demand.
9	Declarative automated cloud resource orchest ration	Changbin Liu Boon Thau Loo Yun Mao	ACM 978-1-4503-0976-9/11/10	Cloud Orchestration Policy Engine (COPE). Constraints Optimization Problem (COP).	Computer communication networks. Distributed System.	**Advantages:** 1. Cloud resource orchestration is mostly controlled by the declarative language. 2. Combines declarative networking and constraint method 3. Supports distributed optimization. **Disadvantages:** 1. Operational objectives are customized in the cloud computing.
10	PeerTrust: supporting reputation based trust for peer to peer electronic communities.	Li Xiong Ling Liu	IEEE conference on E – commerce CEC'03	Reputation Mechanism Data Management. Security.	Peer to Peer online communities. Business to Business (B2B).	**Advantages:** 1. Trustworthiness is based on adaptive trust model. 2. Structured P2P overlaid by transaction based feedback system. **Disadvantages:** 1. Different level of threat model executes P2P on online community.

IV.CONCLUSION

Integrated resource/reputation management developed a new environment called Harmony which is collaborative of the cloud computing. Harmony is built using interdependencies between reputation and resources management which is used to retrieve information available on the cloud service providers, the resulted services is very much efficient and effective. The multi – QoS oriented allocate resources for it operation based on the highest level of QoS (Quality of Service) which is multiplied by QoS attributes. Price – assisted resources/ reputation control used to offer very high range of resources and also avoid over loading of the nodes. Collaborative Cloud Computing (CCC) generates the nodes which is widely and globally scattered over distributed areas and hence sharing of resources is much more reliability. Our literature paper helps to study about cloud computing which is responsible for searching and discovering other mobile resources, connecting, maintaining, connections and communicating with external device.

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BIOGRAPHY

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