

MEASURING CLOUD SERVICES STANDERED AND STRENGTH USING TRUST MANAGEMENT

DEEP KOTHADIYA

Department of computer Engineering, PIET, Vadodara, India
E-mail: cothadiya.deep@gmail.com

Abstract- Now a day number of cloud services available with number of cloud service provider. While the satisfaction of user is basic goal of cloud service provider, before the selection directional as well as transparent information needed to justify strength to ensuring about the selection of service in large space of choices. Generally the selection of service base on requirement and specification isn't more effective task. Another way to selection of the services is based on comparison but there also need some effective numerical parameter to orderlies those service with relevant and common of different services. By using Trust management we can generate a dynamic trust framework which provide a transparent exploration of different services, with number of angular approaches, like service life time, Expert rating, number of satisfied user, service marketing standard and security. Exploring all these parameter in user relevant term to get proper directional identification for selection of service to provide trustworthiness in cloud environment. And providing foot step to resolving the fuzzy band between trustworthiness and current affairs to create such a environment where the execution of technology in real world become easy.

Keywords- Cloud computing, Cloud services, Trust management.

I. INTRODUCTION

Cloud computing is the next generation internet base computing system. Cloud computing has evolved as a popular and universal paradigm for service oriented computing where computing[7] infrastructure and solutions are delivered as a service. Which provide easy and customizable service to the user for accessing or work with various cloud application. Cloud computing provide a way to store and access cloud data from anywhere by connecting the cloud application using internet [3]. Cloud computing is a recently emerged model which is becoming popular among all enterprise. It involves the concept of on demand service which means using the cloud resources on demand and we can scale the resources as per demand. Cloud computing, often referred as "The Cloud", is the delivering on demand computing resource – everything from application to data center over the internet on a pay-per uses basis [6], Cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction [5],

1.1. Type of cloud

Private cloud: These are allocated to a particular organization and are not divided among any specific firm. Private clouds have higher cost and security in comparison to public clouds [1]

Public Cloud: In public cloud, at the vendor's premises the computing infrastructure is hosted by the traders of the cloud. The user has no clarity and control hosted by the computing framework [1]

Hybrid Cloud: This type of clouds is cost-effective and scalable. When we combine the use of public and

private clouds together it is called as hybrid cloud. This aims in minimizing change [1]

1.2. Services in cloud

Infrastructure as a Service (IaaS): Using the principles of cloud computing, services related to hardware are offered. These include storage services or virtual servers [7]

Platform as a Service (PaaS): Development platform on the cloud is offered by them. Distinct vendors provide platform that are not consistent [7]

Software as a Service (SaaS): Complete software services are offered on the cloud. Software application can be accessed by the users hosted by the cloud vendor on the basis of paying as per use [7]

II. TRUST IN CLOUD ENVIRONMENT

Trust. It is the level of subjective probability hold by two network nodes, which is formed through the direct observation nature and/or recommendation from trusted entities, and depends on multi-dimensional performances of a node on fulfilling a particular service. Trust is usually evaluated by trust degree and described with trust relation. [6] There are different type of trust are available like,

1. *Hard Trust:* Hard trust" mechanisms make assumptions about an information system's security, dependability and reliability based on existence of different primitives, e.g. certificates, audits, rating and star.

2. *Soft Trust:* Intrinsic human emotions and perceptions, interaction and exchange of experiences, and loyalty to a brand. Such aspects are fundamental when establishing trust with cloud providers. This kind of trust is known as "soft trust"

3. *Direct Trust:* Consumer directly trust on the provider without any expects. In the condition of No-

choice, Trust before any event on the system, and which would include agent to initiate relation with unknown entities.

4. *Recommended Trust*: A cloud user may trust a cloud service, based on a trusted cloud broker’s recommendation

Trust is the based on which certain decisions are made. Trust is built using prior knowledge and experience. Trust is a subjective notion based on opinion and values of an individual. Trust changes with time and new knowledge while experience will have overriding influence over the old ones. Trust is context-dependent. The most important property of trust is trust is multi-faces and here we go to introduce trust as strength identification for cloud service.

III. TRUST MANAGEMENT FRAMEWORK

Propose trust model to measure service strength with dynamic trust calculation. These framework provide more specified contain and consider those only which are necessary, and also introduce with the profile of cloud service provider in terms of services.

In given fig:1 introduce propose Trust management model which is provide interaction between cloud service provider and user. With covering relevant parameter which are effect on selection of service like service log(SLA and service life time), Feedback and expert rating, marketing and security profile. These all data are compered in service management a forwarded to trust calculation to orderlies with relevant requirement of user.

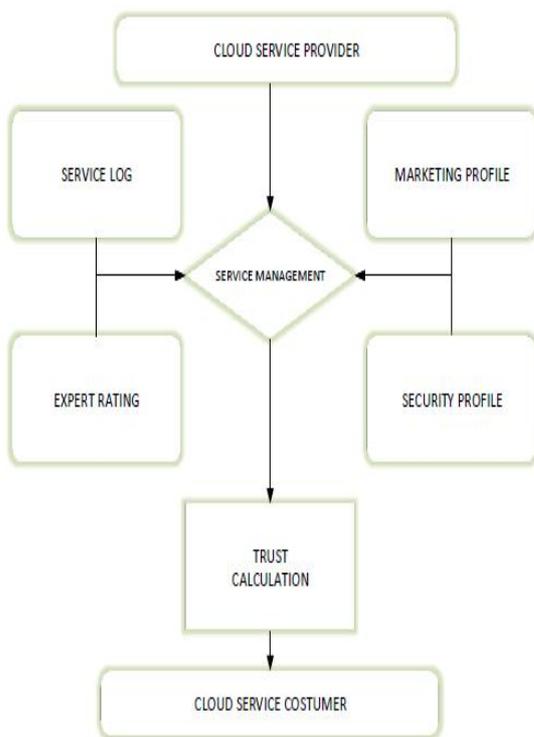


Fig: 1 Trust management model

3.1. Dynamic Trust Calculation

For the evaluate trust value factor to be consider is most important factor for choosing of cloud service provider with appropriate service, propose trust model calculate dynamic trust value which is not depend on number of parameter or category of parameter also.

Final trust value generate as T,

$$T = \sum_{i=1}^n a_i$$

Here, n introduce number of factor which are being consider and 'a' stand for each individual parameter.

$$a_i = \{ \alpha / a \in (C_1, C_2, C_3) \}$$

C_i can be calculated like

$$C_1 = \frac{1}{n}$$

$$C_2 = \frac{1}{n} \times \alpha \quad \text{Where } \alpha = 3/4$$

$$C_3 = \frac{1}{n} \times \beta \quad \text{Where } \beta = 1/2$$

a, β are multiplicative factor these trust value use to orderlies the service in terms of factor which are impact on selection of Service in user point of view

3.2 Workflow

Workflow denote how this model being executed. A step wise scenario is given to understanding well

STEP - 1

Selection of service according to requirement of service, here list out services offered by different cloud service provider based on requirement and specification

STEP - 2

Collecting the feedback which are relevant to that services and filter out necessary feedback

STEP - 3

Supporting these feedback with relevant expert rating in particular service

STEP - 4

Generating log for market level standard and security profile with respect to service. Providing statistical profile of cloud services in terms of reputation, service availability, infrastructure(CPU/Storage), and security standard.

STEP - 5

Collect all parameter in trust management model and providing survey view on necessary property related to user demanded service

STEP - 6

Calculate dynamic trust value and tabulate in logistic in fame of order which is proposnal to user requirement

CONCLUSIONS

In available model of trust management can't justified service in terms of property base standard which directly consider at real time. With the integrity of mathematical calculation provide and orderlies conceptual view which are easy to identified the

standard of services with respect to the requirement, A dynamic base trust value calculation provide more transparent and exploring view of services, for the future enhancement need a introduction of SLA

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