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Modeling Location-Based Recommendation for Multiple Cloud Collaborative Services

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Abstract:
Oriented by requirement of trust management in multiple cloud environments, this project presents T-broker, trust aware service brokering scheme for efficient matching cloud services (or resources) to satisfy various user requests. Trusted third party-based service brokering architecture is proposed for multiple cloud environments, in which the T-broker acts as a middleware for cloud trust management and service matching. Then, T-broker uses a hybrid and adaptive trust model to compute the overall trust degree of service resources, in which trust is defined as a fusion evaluation result from adaptively combining the direct monitored evidence with the social feedback of the service resources. More importantly, T-broker uses the maximizing deviation method to compute the direct experience based on multiple key trusted attributes of service resources, which can overcome the limitations of traditional trust schemes, in which the trusted attributes are weighted manually or subjectively. T-broker uses a lightweight feedback mechanism, which can effectively reduce networking risk and improve system efficiency. Experimental results show that T-broker yields very good results in many typical cases, and the proposed mechanism is robust to deal with various number of service resources. A trust-aware service brokering system for efficient matching multiple cloud services to satisfy various user requests. Experimental results show that T-broker yields very good results in many typical cases, and the proposed mechanism is robust to deal with various number of service resources.

I.INTRODUCTION

Multiple cloud theories and technologies are the hot directions in the cloud computing industry, which a lot of companies and government are putting much concern to make sure cloud provider, and such resources being completely distributed, heterogeneous, and totally virtualized; these features indicate that unmodified traditional trust mechanisms can no longer be used in multiple cloud computing environments**.**

To modify the running headings, select View | Header and Footer. Click inside the text box to type the name of the journal the article is being submitted to and the manuscript identification number. Click the forward arrow in the pop-up tool bar to modify the header or footer on subsequent pages. Cloud computing gets its name as a metaphor for the Internet. Typically, the Internet is represented in network diagrams as a cloud, the cloud icon represents all that other stuff that makes the network work. It's kind of like for the A lack of trust between cloud users and providers has hindered the universal acceptance of clouds as outsourced computing services.

Thus, the development of trust awareness technology for cloud computing has become a key and urgent research direction. Today, the problem of trusted cloud computing has become a paramount concern for most users. It's not that the users don't trust cloud computing capabilities; rather, they mainly question the cloud computing trustworthiness Cloud computing environment has many unique features such as resources belonging to each cloud provider, and such resources being completely distributed, Heterogeneous, and totally virtualized; these features indicate that unmodified traditional trust mechanisms can no longer be used in multiple cloud computing environments.provided by the author. Finally, T-broker uses a lightweight feedback mechanism, which can effectively reduce networking risk and improve system efficiency. Rest of the solution map. It also typically means an area of the diagram or solution that is someone else's concern, so why diagram it all out? It's probably this notion that is most applicable to the cloud computing concept. Four-tuple (user, location, rating, item), a user located at home rating a book;. This project propose LARS*, a novel location aware recommender system built specifically to produce high-quality location-based recommendations in an efficient manner. LARS* produces recommendations using a taxonomy of three types of location-based ratings within a single framework: Spatial ratings for non-spatial items, represented as a non-spatial ratings for spatial items, represented as a four-tuple (user, rating, item, location), where location represents an item location, for example, a user with unknown location rating a restaurant; spatial ratings for spatial items, represented as a five-tuple (user, location, rating, item, location).

Resource sharing in a pure plug and play model that dramatically simplifies infrastructure planning is the promise of cloud computing. The two key advantages of this model are ease-of-use and cost-effectiveness. Though there remain questions on aspects such as security and vendor lock-in, the benefits this model offers are many. This paper explores some of the basics of cloud computing with the aim of introducing aspects

2. RELATED WORKS

Cloud computing environment has many unique features such as resources belonging to each cloud provider, and such resources

being completely distributed, Heterogeneous, and totally virtualized; these features indicate that unmodified traditional trust mechanisms can no longer be used in multiple cloud computing environments. T-broker uses the maximizing deviation method to compute the direct experience based on multiple key trusted attributes of service resources, which can overcome the limitations of traditional trust schemes, in which the trusted attributes are weighted manually or subjectively. can no longer be used in multiple cloud computing environments.

The experimental results show that, compared with the existing approaches, our T-broker yields very good results in many typical cases, and the proposed system is robust to deal with various numbers of dynamic service behaviour from multiple cloud sites. A lack of trust between cloud users and providers has hindered the universal acceptance of clouds as outsourced computing services. Thus, the development of trust awareness technology. For cloud computing has become a key and urgent research direction. Today, the problem of trusted cloud computing has become a paramount concern for most users. It's not that the users don't trust cloud computing capabilities; rather, they mainly question the cloud computing trustworthiness.

3. PROPOSED SYSTEM

The system is to construct a trust-aware service brokering system for efficient matching computing resources to satisfy various user requests. This project propose LARS*, a novel location aware recommender system built specifically to produce high-quality location-based recommendations in an efficient manner. LARS* produces recommendations using a taxonomy of three types of location-based ratings within a single framework: (1) Spatial ratings for non-spatial items, represented as a four-tuple (user, location, rating, item), where location represents a user location, for example, a user located at home rating a book; (2) non-spatial ratings for spatial items, represented as a four-tuple (user, rating, item, ilocation), where ilocation represents an item location, for example, a user with unknown location rating a restaurant; (3) spatial ratings for spatial items, represented as a five-tuple (user, ulocation, rating, item, ilocation).

- The cloud service brokers or monitoring systems emerged as a promising concept to offer enhanced service delivery over large-scale cloud environments.

- The trust brokering system should be fast convergence and light-weight to serve for a large number of users and providers.

4. SYSTEM ARCHITECTURES

System design is the process of defining the architecture, components, modules, and data for a system to satisfy specified requirements. One could see it as the application of systems theory to product development. There is some overlap with the disciplines of systems analysis, systems architecture and systems engineering. If the broader topic of product development blends the perspective of marketing, design, and manufacturing into a single approach to product development, then design is the act of taking the marketing information and creating the design of the product to be manufactured.

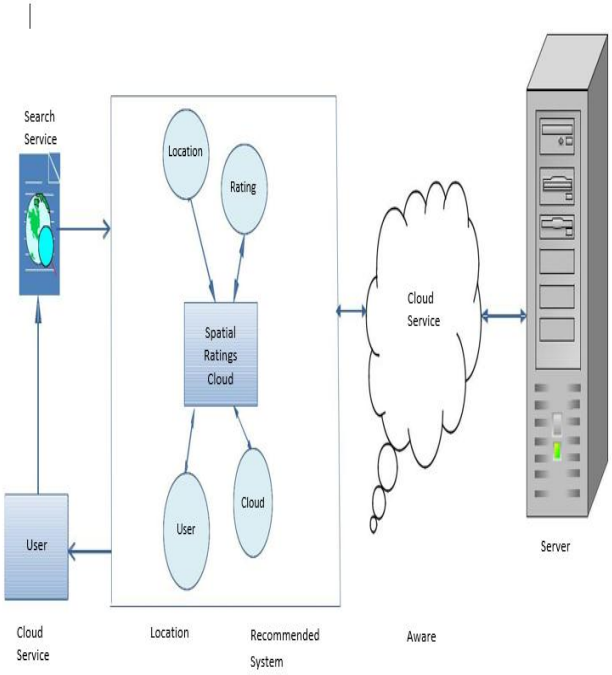

Figure.1. System Architectures

4.1 Spatial Ratings for Non-Spatial Items

It represented as a four tuples (user, ulocation, rating, item), where ulocation represents a user location, for example, a user located at home rating a book , Movie Lens: a real data set consisting of spatial user ratings for non-spatial items taken from the popular Movie Lens recommender system. Here the cloud services considered as the non-spatial item. Special ratings will allow us to select the high rated or good rated product. Special ratings can select our product which is near to our home stores. Visual attention is broadly defined as the ability to rapidly detect and respond to stimuli within the surrounding environment and to effectively select between relevant and irrelevant visual information. Spatial attention (i.e., the ability to direct attention to a particular location in space) has been extensively investigated in both healthy controls and neuropsychological patients. However, a purely spatial account of visual attention fails to explain the complexity of the underlying cognitive mechanisms, and over the years a substantial amount of evidence has been compiled on non-spatial aspects of attention (e.g., alertness, attentional load, or attentional processing resources), which have been shown to significantly influence the spatial ones.

4.2 Data Searching

A search data structure is any data structure that allows the efficient retrieval of specific items from a set of items, such as a specific record from a database. Linear search is a very simple search algorithm. In this type of search, a sequential search is made over all items one by one every items is checked and if a match founds then that particular item is returned otherwise search continues till the end of the data collection.There are different types of user who do internet shopping. Depending how frequently a user is buying items and rating them, after N% of transactions time period considered for particular user varies.is user is frequent buyer, number of transactions within a month will be enough for him to get recommendations. However if user

doesn't have much transaction history, a year old transactions are to be considered to fulfil the requirement of N% of transaction. The influence level of time factor can also be given by user depending on his search criteria.

4.3 Geographical Clustering

The geographical clustering phenomenon suggests that the spatial items rated by the same user tend to be geographically clustered. Geographical clustering observe that users' spatial activities are geographically clustered around several centres rather than randomly distributed. In the proof of irretrievability model Geographical clustering allow the attacker to execute a polynomial Number of proof attempts before committing to how it will store memory. In the NR model the Adversary does not get to execute the protocol before committing its memory. However, this limited view overlooks several scenarios. In particular, Geographical clustering want to be Able to handle setups where there are several varies that do not communicate or if there might Be several storage servers handling the same encoded _le that are audited independently.

4.4 Cloud Service Recommendation

Experimental analysis using real and synthetic datasets show that LARS is efficient, scalable, and provides better quality recommendations and Data are verified. Recommender systems make use of community opinions to help users identify useful items from a considerably large search space (e.g., Amazon inventory, Netflix movies). The technique used by many of these systems is collaborative filtering (CF), which analyses past community opinions to find correlations of similar users and items to suggest k personalized items (e.g., Cloud service) to a querying user u. Cloud service recommendation implement NC Cloud as a proxy that bridges user applications and multiple clouds. Its design is built on three layers. The file system layer presents NC Cloud as a mounted drive, which can thus be easily interfaced with general user applications. The coding layer deals with the encoding and decoding functions. The storage layer deals with read/write requests with different clouds.

K-means.cs

```
Using System;
Using System.Data;
Using System.Data.SqlClient;
Using System;
Using System.Collections;
Using System.Configuration;
Using System.Data;
Using System.Linq;
Using System.Web;
Using System.Web.Security;
Using System.Web.UI;
Using System.Web.UI.WebControls;
Using System.Web.UI.WebControls.WebParts;
Using System.Web.UI.HtmlControls;
Using System.Xml.Linq;
Name space ats.KMeans
{
/// <summary>
/// This class implement a KMeans clustering algorithm
/// </summary>
public class KMeans
{
SqlConnectioncn=new SqlConnection(ConfigurationManager.
ConnectionStrings["Constr"].
ConnectionString);
SqlCommand cmd = new SqlCommand();
public KMeans()
{
}
Public static double EuclideanDistance (double [] X, double [] Y)
{
int count = 0;
double distance = 0.0;
double sum = 0.0;
for (int i = 0; i < count; i++) Sum = sum + Math. Pow (Math.
Abs(X[i] - Y[i]), 2);
}
distance = Math.Sqrt(sum);
return distance;
}
public static double Manhattan Distance(double[] X, double[] Y)
{
int count = 0;
double distance = 0.0;
double sum = 0.0;
if (X.GetUpperBound(0) != Y.GetUpperBound(0))
{
throw new System. Argument Exception("the number of elements in X must match the number of elements in Y");
}
else
{
count = X.Length;
}
for (int i = 0; i < count; i++)
{
sum = sum + Math.Abs(X[i] - Y[i]);
```

5. CONCLUSION

This project presents a T-broker, a trust-aware service brokering system for efficient matching multiple cloud services to satisfy various user requests. Experimental results show that T-broker yields very good results in many typical cases, and the proposed mechanism is robust to deal with various number of service resources. A trust-aware service brokering system for efficient matching multiple cloud services to satisfy various user requests. Experimental results show that T-broker yields very good results in many typical cases, and the proposed mechanism is robust to deal with various number of service resources. In the future, project will continue our research from two and Monitored evidences reports and how to motivate more users to submit their feedback to the trust measurement engine.

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