

Service Operator-aware Trust Scheme for Resource Matchmaking across Multiple Clouds

- The service operator-aware trust scheme (SOTS) for resource matchmaking across multiple clouds. Through analyzing the built-in relationship between the users, the broker, and the service resources.
- A middleware framework of trust management that can effectively reduce user burden and improve system dependability. Based on multi-dimensional resource service operators, we model the problem of trust evaluation as a process of multi-attribute decision-making, and develop an adaptive trust evaluation approach based on information entropy theory.
- This adaptive approach can overcome the limitations of traditional trust schemes, whereby the trusted operators are weighted manually or subjectively. As a result, using SOTS, the broker can efficiently and accurately prepare the most trusted resources in advance, and thus provide more dependable resources to users.
- Our experiments yield interesting and meaningful observations that can facilitate the effective utilization of SOTS in a large-scale multi-cloud environment.

Existing System

- A systematic trust management scheme for multi-cloud environments based on multi-dimensional resource service operators. SOTS evaluate the trust of a cloud resource in contrast to traditional trust schemes that always focus on unilateral trust factors of service resources.
- A adaptive fused computing approach for dynamic service operators, based on information entropy theory. SOTS model the problem of trust evaluation as a process of multi-attribute decision-making, and then develops an adaptive trust evaluation approach.
- A first service, last audit (FSLA) mechanism to overcome the trust initialization problem of newly registered resources. When a resource initially registers for business, no user has interacted with it, and consequently, information on past service operators is non-existent.

Reputations-based schemes. Hwang et al. suggested using a trust-overlay network over multiple data centers to implement a reputation system for establishing trust between providers and data owners. Their trust model collects and analyzes reliability based on the historical server information in a cloud data center.

Proposed System

The proposed middleware architecture consists of a number of core modules, including the trusted resource matchmaking and distributing module, the adaptive trust evaluation module, the agent-based service operator acquisition module, and the resource management module, among others.

Adaptive Trust Evaluation Module.

This module is the core of the trust-aware cloud computing system, and is the major focus of this paper. Using this module, the broker can dynamically sort high-performance resources by analyzing the historic resource information in terms of providing highly trusted resources.

Trusted Resource Matchmaking and Distributing Module.

In general, each cloud manager registers its service resources through the cloud broker. The service user negotiates with the service broker on the Service-Level Agreement (SLA) details; they eventually prepare an SLA contract. According to this contract, the broker selects, and then presents highly trusted resources to users from the trusted resource pool.

Resource Register Module.

It manages and indexes all the resources available from multiple cloud providers, and obtains information from each particular cloud resource, acting as pricing interface for users, and updating the database when new information is available.

Advantages

- The Broker is aware of the resources seeking and providing with the matchmaking framework.
- It makes the resource availability with using security key for sharing the content with highest security.

MODULE DESCRIPTION

Modules:

The system consists of modules and threat modules.

- User Request and policies
- Provider services
- Broker Matchmaking Services
- Messaging
- Service status

Module Explanation

User Request and Policy:

The user request for the service to the broker with the policies so that client needs the specific services for production usability, reliability and security to the consumers

Provider Services:

The provider provides the various services through the broker so that the broker with trust worthy for the service operator and to the consumer.

Broker Matchmaking Services

The Broker on viewing the request and services from the consumer and provider, matches and sends the messages and mail to the user with id and password so that files and documents can be shared and stored in the cloud.

Messaging

The messages send to the user with password and security key for the services can be utilised for the user convenience.

Service Status

The broker after serving the request or responding the request, the service status has to update whether it is processed or it is pending.

SYSTEM CONFIGURATION

SOFTWARE REQUIREMENTS:

- Operating System : Windows 7
- Technology : Java and J2EE
- Web Technologies : Html, JavaScript, CSS
- IDE : Eclipse Juno
- Web Server : Tomcat
- Database : My SQL
- Java Version : J2SDK1.5

HARDWARE REQUIREMENTS:

- Hardware : Pentium Dual Core
- Speed : 2.80 GHz
- RAM : 1GB
- Hard Disk : 20 GB
- Floppy Drive : 1.44 MB
- Key Board : Standard Windows Keyboard
- Mouse : Two or Three Button Mouse
- Monitor : SVGA