

Automating Query Cloud-Provider through Semantic Technologies

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Abstract:

In information technology (IT) as a service delivered to the tip user could be a paradigm shift that's quick dynamical the manner businesses appearance at the role of IT inside the organization. The service is non inheritance on associate as-needed basis and might be termed as service on demand typically the service is hosted on a cloud or a computing grid and is delivered to the organization via the web or mobile devices. Faculty and university IT organizations area unit expected to stay up with an extended list of competitive demands such as Deploying applications and delivering web-based student services at a quickly fast rate usually while not a proportionate increase in allow hardware, software, and personnel. Maintaining a conventional IT infrastructure progressively unable to accommodate the growing variety of private devices as well as tablets, phones and laptops that students bring into the field atmosphere giving enough information measure to accommodate Broadcasting swings in network usage To solve this drawback the projected system presents a replacement integrated methodology for the life cycle of IT services delivered on the cloud and demonstrate however it is accustomed represent and reason regarding services and repair necessitous so automates service acquisition and consumption from the cloud. The IT services life cycle is split into 5 phases of necessitous, discovery, negotiation, composition, and consumption, each part of describes the ontology's that have developed to represent the ideas and relationships for every part. To indicate however this life cycle will automate the usage of cloud services, projected system describe a cloud storage epitome.

Keywords:

Intelligent web services and Semantic Web, life cycle, ontology design, web-based services.

Introduction:

Cloud computing is associate degree rising computing paradigm within which resources of the computing infrastructure.

As promising because it is, this paradigm additionally brings forth several new challenges for knowledge security and access management once users source sensitive knowledge for sharing on cloud servers, that don't seem to be inside an equivalent trustworthy domain as knowledge homeowners. To stay sensitive user knowledge confidential against untreated servers, existing solutions typically apply scientific discipline ways by revealing knowledge decoding keys solely to licensed users. However, in doing thus, these solutions inevitably introduce an important computation overhead on the knowledge the info the information owner for key distribution and knowledge management once fine-grained data a access management is desired. The problem of at the same time achieving measurability and knowledge confidentiality of access management truly still remains unresolved.

This paper addresses this difficult open issue by, on one hand, process and implementing access policies supported knowledge attributes, and, on the opposite hand, permitting the knowledge the info the information owner to delegate most of the computation tasks concerned in fine-grained knowledge access management to entrusted cloud servers while not revealing the underlying data contents. gift system achieves this goal by exploiting and unambiguously combining techniques of attribute-based encoding (ABE) and Advanced encoding normal (AES). gift System shows secure ABE-based hybrid cloud storage design that permits a corporation to store knowledge firmly in a very public cloud, whereas maintaining the sensitive data associated with the organization's structure in a very non-public cloud. Our projected theme additionally has salient properties of user access privilege confidentiality and user secret key responsibility. in depth analysis shows that our projected theme is very economical and demonstrably secures below existing security models.

Existing system:

Cloud computing and virtualization has gained a lot of momentum and has become a additional fashionable phrase in information technology.

several organizations have started implementing these new technologies to any cut back prices through improved machine utilization reduced administration time and infrastructure prices. Cloud computing is that the atmosphere that allows customers to use applications on the web like storing and protective information whereas providing a service. VCL could be a cloud computing plan developed at the North geographical area State University through a collaboration of its faculty of Engineering and IBM Virtual Computing Initiative to deal with a growing set of machine wants and user necessities for the university. this technique will deliver user needed solutions for kind of service environments anytime and anywhere on demand reservation.

Disadvantage:

- » Competing against different universities, several of that plan to differentiate themselves within the market supported the services they provide to students risk facing common cloud-computing challenges, including:
- » Limited virtualization round the end point computing resources
- » Failure to use innovative, cost-saving initiatives, like business continuity or disaster recovery primarily based within the cloud
- » Security inadequately targeted at the appliance or server layer solely
- » Lack of client isolation exploitation secure, scalable, multitenant services
- » Deploying applications and delivering web-based student services at a quickly fast rate, typically while not a proportionate increase in allow hardware, software, and personnel
- » Drastically reducing prices whereas maintaining the best levels of security and privacy.

Proposed system:

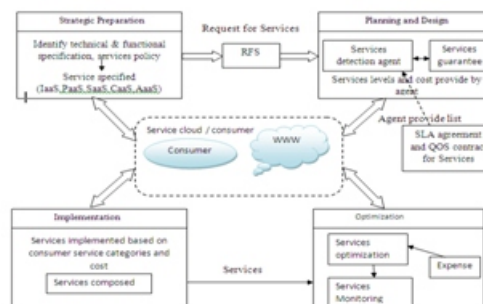
The projected methodology can modify practitioners to arrange, create, and deploy virtualized services with success. The key reason to possess a semantically made approach to explain cloud attributes and service-level agreements (SLA) is to allow distributed purchasers and cloud service suppliers to automates the method of acquisition and consumption of services. In projected example, the service attributes are the storage size, backup rules, service accessibility, and repair prices. Specifications additionally list acceptable security levels, knowledge quality, and performance levels of the service computer code.

Proposed system used W3C customary linguistics net technologies, like net metaphysics Language (OWL), Resource Description Framework (RDF), and SPARQL, to develop our example system since they permit United States of America to make the vocabulary (or ontology) of our service life cycle victimization standardized languages that support our style needs, that embrace ability, sound linguistics, net integration, and also the accessibility of tools and system parts. The raptorial bird language features a well-defined linguistics that's grounded in first-order logic and model theory. it's doable to insert RDF and raptorial bird data in HTML pages and several other search engines (including Google) can realize and method some embedded RDF.

Advantage:

- » Virtualized service models, it's imperative for the buyer to be ready to establish all the constraints or assertions of a service that require to be met together with its purposeful needs.
- » To address the life-cycle issue for virtualized services delivered from the cloud. projected system use semantically wealthy descriptions of the necessities constraints and capabilities that are required by every section of the life cycle.
- » To modify the IT service phases radio-controlled by high-level policy constraints provided by shoppers service customers or service suppliers.
- » Simple program accustomed cloud shoppers for discover and acquire disk storage on the cloud by specifying the service attributes, security policies, and compliance policies.

System design:



Literacy survey: Managing the Quality of Virtualized Services:

In this paper we have a tendency to propose a framework to live and semi automatically track quality delivered by a Virtualized service delivery system, The framework provides a mechanism to relate laborious metrics generally measured at the backstage of the delivery method to quality connected laborious and soft metrics half-track at the front stage wherever the patron interacts with the service.

Good Relations: An Ontology for Describing Products and Services Offers on the Web:

In this paper, we tend to analyze the complexness of product description on the linguistics net and outline the Good Relations metaphysics that covers the realistic wants of typical business situations for artifact merchandise and services.

Ontology-based methodology for e-service discovery:

Service discovery may be a important side within the Service oriented Computing approach. A model, a technique and a tool setting supported ontologies are projected during this paper. The requester and supplier views are mentioned, each to support the service publication section and also the search section. Quality Driven Web Services .

Composition:

In this paper, we tend to propose a quality-driven internet service composition methodology for omnipresent computing surroundings. Our methodology evaluates the standard of internet services in 3 dimensions quality of services quality of contexts and quality of devices.

A Spiral Model of Software Development and Enhancement:

This article opens with a brief description of package method models and therefore the problems they address. later sections define the method steps concerned within the spiral model illustrate the appliance of the spiral model to a package project mistreatment the TRW package

Productivity Project as associate example; summarize the first benefits and implications concerned in mistreatment the spiral model and therefore the primary difficulties in mistreatment it at its current incomplete level of elaboration and gift ensuing conclusions.

Modules:

- Service Requirement
- Service Discover
- Service Negotiation
- Service Composition
- Service Consumption

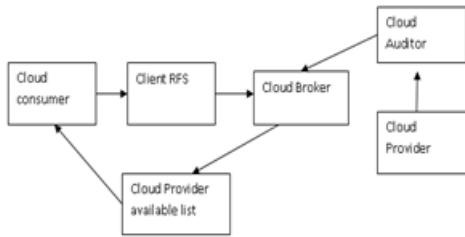
Service requirement:

In the service needs part, the buyer details the technical and practical specifications that a service must full fill. Service compliance details like certifications required, standards to be adhered to, and so on, also are known. The technical specifications lay down the hardware, software, application standards, and language support policies to that a service ought to adhere. Once the customers have known and classified their service desires, they issue asking for Service (RFS). This RFS will be generated in a very code format mistreatment linguistics internet technologies.



Service Discover:

In the service discovery part, suppliers square measure discovered by scrutiny the specifications listed within the RFS with service descriptions. the invention is unnatural by purposeful and technical attributes outlined, and additionally by the fund, security, compliance, knowledge quality, and agent policies of the patron. a company will unleash the RFS to a restricted preapproved set of suppliers. instead, it will hunt for all potential vendors on the net. whereas looking the supplier, service search engines or cloud brokers will be utilized. A “cloud broker” role has been known by cloud server. This cloud broker runs a question against the services registered with a central written record or organization and matches the service layer, domain, data type, compliance wants, and purposeful and technical specifications and returns the result with the service suppliers matching the most variety of needs listed at the highest.



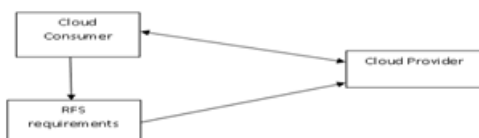
Service Negotiation:

In this module the buyer sends Associate in Nursing RFS to the supplier specifying the practical and non practical necessities. The supplier responds to the RFS in one among 3 ways:

- » Informs the buyer that it cannot offer the service, terminating negotiation.
- Indicates that a service matching all the wants exists and sends the quote with SLAs.
- » Indicates that there's a partial match of necessities and sends the quote with SLA file listing matching constraints.

The consumer receives and considers the quote. Then the consumer responds to the quote in one of three ways:

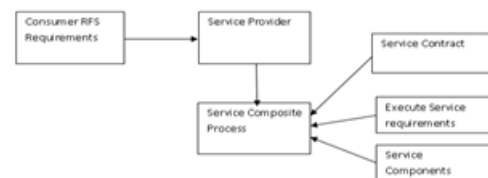
- » If the quote may be a partial match, the buyer relaxes the service constraints and/or practicality and resends the RFS to the supplier. The supplier repeats the actions in step a pair of
- » If the response may be a full match and also the client is glad with the supply then negotiation is regarded complete. the buyer signs this supply associate degreeed returns it as an SLA
- » The client will decline the service, terminating the negotiation.
- » The provider responds to the RFS in one of two ways:
- » The supplier will not offer the service, and rejects the agreement, terminating negotiation.
- » The supplier agrees with the constraints, and therefore the same RDF file consisting of the SLA currently exists with each parties.



Service Composition:

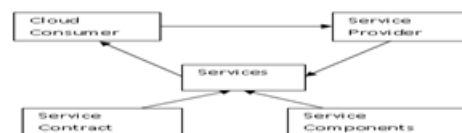
In this section, one or additional elements provided by one or additional suppliers area unit combined and delivered as one service to the service shopper.

Service orchestration determines the sequence of the service elements. Service Composition (SC) needs a computer virus to mechanically choose, integrate, and invoke multiple internet services so as to realize a user-defined objective the composite service consists of human agents providing the service, the service computer code, and dependent service elements. All the 3 components, agents, software, and dependent services, should be monitored to manage the general service quality. The service category takes inputs from the specification, service contracts, and service-level agreement categories outlined within the earlier phases to see the orchestration of the varied elements.



Service Consumption:

The service is delivered to the patron supported the delivery mode specified within the negotiation part. when the service is delivered to the patron, payment is created for an equivalent supported the valuation model in agreement to within the SLA. the patron then begins overwhelming the service. in a very cloud atmosphere, the service sometimes resides on remote machines managed by the service suppliers. during this part, client would force tools that alter service quality observance and repair termination if required. this may involve alerts to humans or automatic termination supported policies outlined mistreatment the quality-related ontologies. The service monitor measures the service quality and compares it with the standard levels outlined within the SLA. This part spans each the patron and cloud areas as performance observance may be a joint responsibility. If the patron isn't happy with the service quality, she/he ought to have the choice to terminate the service and stop service payment.



Conclusion:

In this paper, we've got outlined associate integrated metaphysics for processes required to modify IT services life cycle thecloud. To the simplest of our information, this is often the primary sucheffort, and it's important

because it provides a holistic read of steps involved in deploying IT services. Our approach enhances previous work on ontologies for service descriptions in that it's targeted on automating the processes required to procure services on the cloud. The methodology will be referenced by organizations to see what key deliverables they can expect at any stage of the method. We also hope that it'll change the academic and also the trade to be on the "same page" after they talk about IT services on the cloud. The tool that we have a tendency to design with success incontestable however our methodology will be wont to considerably modify the acquisition and consumption of cloud-based services thereby reducing the big time needed by corporations to discover and procure cloud-based services. we have a tendency to be within the process of emotional this tool to multiple users to research how this scales up.

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