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Scalable Analysis and Improved Search in Software as a Service in Cloud

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Abstract: *Cloud computing has recently emerged as a promising hosting platform that allows multiple cloud users called tenants to share a common physical computing infrastructure. With quick implementation of the thought of Software as a Service (SaaS) and Service Oriented Architecture (SOA), the Internet has evolved into an important service delivery infrastructure instead of merely providing host connectivity. In this paper, we represent IntTest, verification method that can enthusiastically verify the integrity of data processing results in the cloud infrastructure and pinpoint malicious service providers when inconsistent results are noticed. We confirm service reliability by analyze result consistency information with graph study. We anticipated a new runtime service reliability verification scheme that employs a novel attestation graph model to capture attestation results among dissimilar cloud nodes. We plan verification graph study algorithm to pinpoint malicious service providers and recognize colluding attack example. Our method can attain runtime reliability attestation for cloud dataflow processing services using a small number of verification data. Thus, our method does not need conviction hardware or secure kernel co-existed with third-party service providers in the cloud. IntTest can attain improved scalability and higher detection accuracy than the state-of-the-art method. We expand our effort in SAAS system to suggest links with improved trust results and with large number of service functions and services with consistency graph.*

Keywords: *cloud computing, integrity attestation.*

I. INTRODUCTION

Recent days the cloud computing technology is popular because it is an attracting technology in the field of computer science. Cloud computing is internet based computing that generally referred the shared configurable resources (e.g., infrastructure, platform, and software) is provided with computers and other devices as services. Cloud computing entrusts services with a customer's data, software and computation over a network. The customer of the cloud can get the services through the network. In other words, users are using or buying computing services from others. Cloud can provide Anything as a Service (AaaS). Cloud computing has recently emerged as a promising hosting platform that allows multiple cloud users called tenants to share a common physical computing infrastructure. With rapid adoption of the concepts of Software as a Service (SaaS) and Service Oriented Architecture (SOA), the Internet has evolved into an important service delivery infrastructure instead of merely providing host connectivity. This project focuses on service integrity attacks that cause the user to receive untruthful data processing results. User can get Software as a service from private cloud or public cloud system. Design IntTest framework for probabilistic replay-based consistency check and the integrity attestation graph model. To derive the consistency/inconsistency relationships between service providers. The global inconsistency graph analysis can effectively

expose those attackers that try to compromise many service functions. Inconsistency graph to capture inconsistency relationships among all service providers. In order to generate these graphs, the portal maintains counters for the number of consistency results and counters for the total number of attestation data between each pair of service providers. Finally we design secured search engine for analyzed various software's. Automatically enhance result quality by replacing the bad result with good result. Provide trusted link, reconstructed results and recommended result. Relevant search link result to the user using page ranking methods.

II. RELATED WORK

In [1] W. Xu, V. N. Venkatakrisnan, R. Sekar, and I. V. Ramakrishnan et al. In this paper, we propose a framework that addresses consumer privacy concerns in the context of highly customizable composite web services. Our approach involves service producers exchanging their terms-of-use with consumers in the form of .models. Our framework provides automated techniques for checking these models at the consumer site for compliance of consumer privacy policies. In the event of a policy violation, our framework supports automatic generation of obligations. That the consumer generates for the composite service. These obligations are automatically enforced through a dynamic program analysis approach on the web service composition code. We illustrate our approach with the implementation of two example services.

In [4] H. Zhang, M. Savoie, S. Campbell, S. Figuerola, G. von Bochmann, and B. S. Arnaud, et al. Service-oriented virtual private networks for grid applications et al. In this paper, we introduce the concept of fundamental lightpath, and propose that a fundamental lightpath be taken as the basic unit of optical network partitions. We then enlist the key web service operations a Lightpath Web Service (LP-WS) should support, such as concatenation, partitioning, etc. Furthermore, we discuss the LP-WS in the context of a business process, where institutions involved in a collaborative Grid project acquire a pool of LP-WSs from optical carrier networks, and then integrate these LPWSs with discipline-specific web services into a workflow.

In[6] I. Roy, S. Setty, and et. al. Airavat is a novel integration of mandatory access control and differential privacy. Data providers control the security policy for their sensitive data, including a mathematical bound on potential privacy violations. Users without security expertise can perform computations on the data, but Airavat confines these computations, preventing information leakage beyond the data provider's policy.

III. IN TEST

Attestation of cloud environment can be done through either for web service applications or cloud providers servers and its infrastructures. Since more of the attacks on cloud are very critical and are focused on service provider's infrastructures, it is more necessary to provide attestation of the virtualization environment than the users applications..Attestation is the means by which a trusted computer assures a remote computer of its trustworthy status. The platform is manufactured with a public/private key pair built into the hardware. The public part of the hardware key is certified by an appropriate CA. Each individual platform has a unique hardware key. Using the private part of its hardware key, the system can guarantee assertions about the platform state. A remote computer can verify that those assertions have been guaranteed by a trusted computer. We emphasize that attestation must result in a shared secret between the application and remote party, otherwise the platform is vulnerable to session hijacking—an attacker could wait for attestation to complete, reboot the machine into untrusted mode, and masquerade as an authorized application. Remote attestation allows changes to the user's computer to be detected by authorized parties. Property-based remote attestation method oriented to cloud computing is designed based on the characteristics of cloud computing. The key primitive provided by secure coprocessors is hash-based attestation, whereby the platform generates a certificate that captures the binary launch-time hash of all components comprising the software stack. Logical attestation is based on attributable, unforgeable statements about program properties, expressed in logic property descriptions represented as logical formulas.

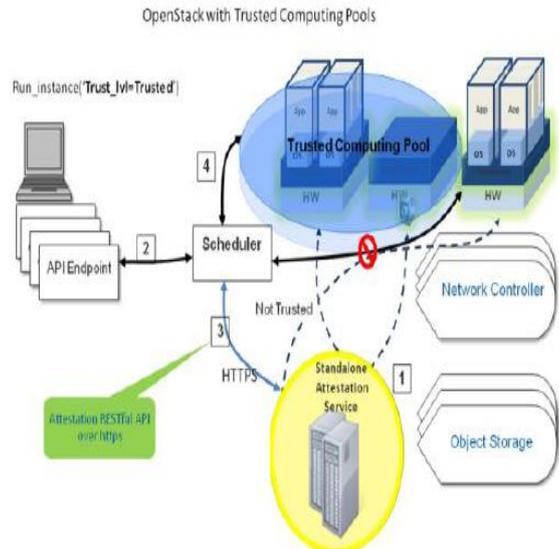


Figure 1: Attestation server for trusted cloud platform

IV. MOST TRUSTED

PageRank is an algorithm used by Google Search to rank websites in their search engine results. PageRank was named after Larry Page, one of the founders of Google. PageRank is a way of measuring the importance of website page. This paper intends to framework and a mechanism that measures the quality and ranks cloud services for the users. CloudRank framework by taking the advantage of past service usage experiences of other users. So it can avoid the time consuming and expensive real life service invocation. Cloud computing entrusts services with a customer’s data, software and computation over a network. The customer of the cloud can get the services through the network. In Cloud technology the QoS based service selection is an essential research topic. When many services offer similar functionality QoS values show a critical role for separating the optimal service for that particular task. Because many number of cloud services are available. Since the user points of view, it is difficult to choose the best service and what mechanism used to select their services. Qos models are associated with End-Users and providers. it is the first personalized ranking prediction framework to calculate the QoS ranking of a set of cloud services not including requiring in addition real-world service invocations from the intended users. This approach takes gain of the past usage experiences of other users for building personalized ranking prediction for the Active user.

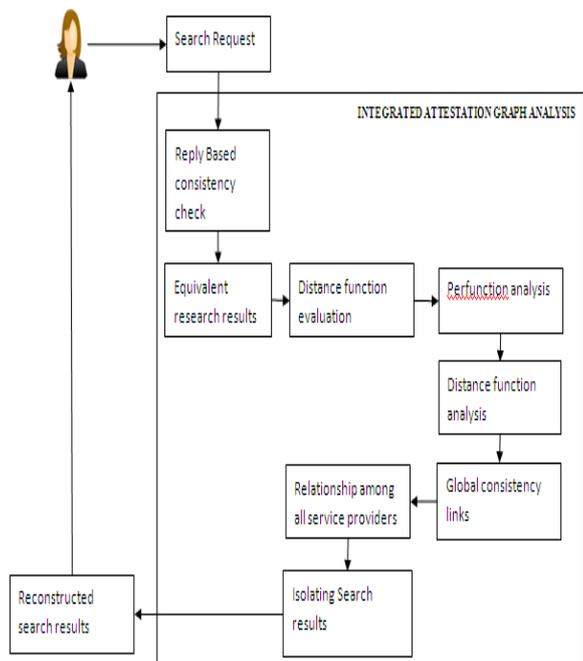


Figure 2: System architecture

V. EXPERIMENTAL RESULTS

In the experimental results the security level is showed by comparing the existing and the proposed system. The comparison table and the graph is shown below.

Technique	Security level
Existing	70%
Proposed	98%

Table 1: Comparison table

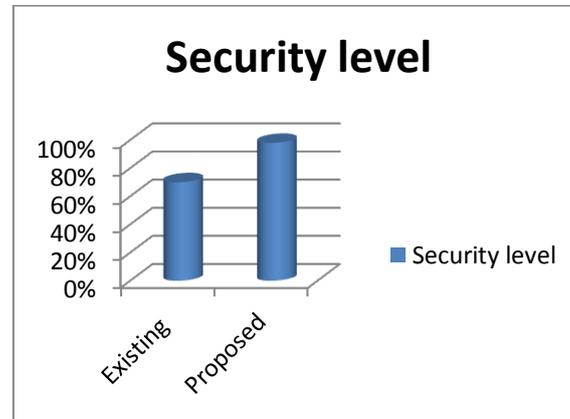


Figure 2: Comparison graph

VI. CONCLUSION

Cloud Computing has emerged as one of the hot research areas in the field of computer networking. Integration of Cloud and Trust Computing can be a viable solution for communities with high data integrity requirements. Trust computing further unravels the benefits in making the cloud more secure through the means of attestation. In this work, we have developed an efficient and effective utilization of cloud services access from the cloud providers. It is greatly useful for the cloud users that decide the best cloud services. Ranking algorithm is used for the ranking of the virtual machines to provide faster access of resources; hence it reduces the response time. Implemented IntTest, a novel integrated service integrity attestation framework for multi-tenant software- as-a-service cloud systems. Detected colluding attackers more efficiently than existing techniques. In future used different algorithm for this security.

References

1. W. Xu, V. N. Venkatakrishnan, R. Sekar, and I. V. Ramakrishnan, "A framework for building privacy-conscious composite web services," in IEEE International Conference on Web Services, Chicago, IL, Sep. 2006, pp. 655–662.
2. P. C. K. Hung, E. Ferrari, and B. Carminati, "Towards standardized web services privacy technologies," in IEEE International Conference on Web Services, San Diego, CA, Jun. 2004, pp. 174–183.
3. L. Alchaal, V. Roca, and M. Habert, "Managing and securing web services with vpns," in IEEE International Conference on Web Services, San Diego, CA, Jun. 2004, pp. 236–243.
4. H. Zhang, M. Savoie, S. Campbell, S. Figuerola, G. von Bochmann, and B. S. Arnaud, "Service-oriented virtual private networks for grid applications," in IEEE International Conference on Web Services, Salt Lake City, UT, Jul. 2007, pp. 944–951.
5. M. Burnside and A. D. Keromytis, "F3ildcrypt: End-to-end protection of sensitive information in web services," in ISC, 2009, pp. 491–506.
6. I. Roy, S. Setty, and et. al., "Airavat: Security and privacy for MapReduce," in NSDI, April 2010.

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