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An Analysis of Hybrid Authentication and Authorization Model for Web based Application

Harish Baraithiya, R. K. Pateriya

Abstract: ***In the recent time many websites performing different task and there is need to every user having separate access credentials to each website. Every user is needed to remember and maintain the every user id and its password that is related website. There is always requirement to secure access the personal information and safe from malicious insiders. So there is always needed to manage only authenticated user can access only authorized data not the other. The present models having some limitations but the proposed model is useful for the analysis of some authentication and authorization for the secure the website in user friendly environment. Here it is follow the Single Sign On mechanism which handle the comparison with many access control models and its features in the proposed hybrid model.***

Index Terms: Web Usage Mining, Authentication, Authorization, Web Access control, Web-based Applications, Security.

I. INTRODUCTION

Every area in the environment needs to manage personally. This area belongs to Industry and Education as an organization which is managed by some application. Here every user having some credentials to effective manages its content for access control. This control management work on both internet and intranet environment. The sensitive information is stored in the cloud environment.

Most of the applications manage by third party vendor. It manages the control flow of website in a secure way with business logic. It always prefers some business control system in the organization to protect the sensitive information from any kind of malicious activities. In the present system lots of controlling mechanism is available with secure key management. Even though some bio metric verification is also applied in secure data access management.

Every website is having some text, image and videos. This content of website is having some categories just like public and private and shared. Many users having some role for the access control management. Suppose there is ten website so every web user need to create ten credentials. So it is very tedious job to maintain by web user for memorize them. Single Sign On (SSO) is the best way to manage all website authentication by only one credential for its access control. It handles by some model in a secure way.

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II. RELATED WORK

Marc Andre Laverdiere [1] proposes analysis of pattern behavior flow that is used to analyze the traversal pattern of web users. It is used the layered architecture for security maintenance by using the derived formal models.

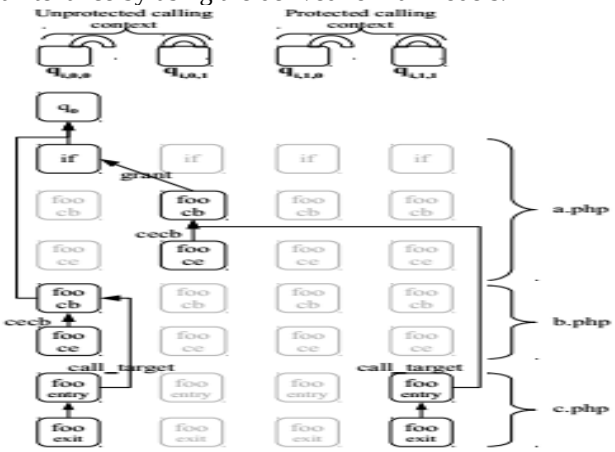

Fig. 1: PTFA Model for in Running State

Weili Han [2] propose the approach to generate the password using English and Chinese website users. It first searches the preference digit of Chinese at the time of composing the password with the strength based on similarity of guessing. In the second step it prefers the password pattern for users of Chinese and English words with the different Chinese input methods. Next third step it observes for both dominant user preferred format. Amina Bourouis [3] uses the Symbolic Observation Graph (SOG) that uses some web services for secure data access using some Url in JSon format. This accessible data is consumed by the application which is maintained by web users in the website.

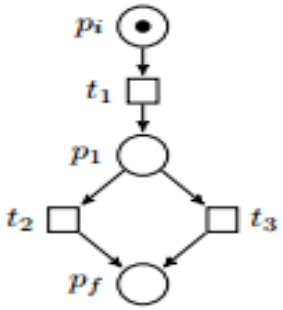

Fig. 2: A wf-net

Lin Liu [4] proposed improved Bayesian attack graph model. This first handles the management of any attack then manage the other threat factors.

It is also used to control probability distribution in nodes with the local condition environment. Here node level management is used to control any risk of the website.

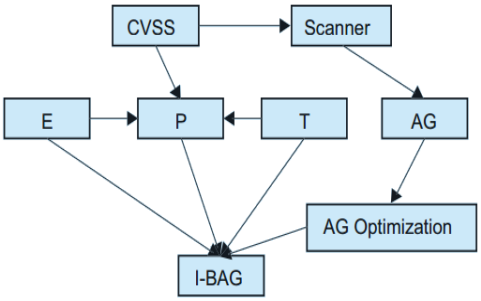

Fig. 3: Building of I-BAG

Mingqiang Li [5] proposed cloud based data storage management of every website. In the cloud multi backup storage is manage and at a time only one database is accessible for website. If this data is damage then it auto switch to another backup for website users. It is always manage backup of current data in a proper manner in a durable with reliable form. So that only secure management can provide to access data using some services with the cost efficient. This service is provided better way to manage good bandwidth and it is also manage data storage in proper way.

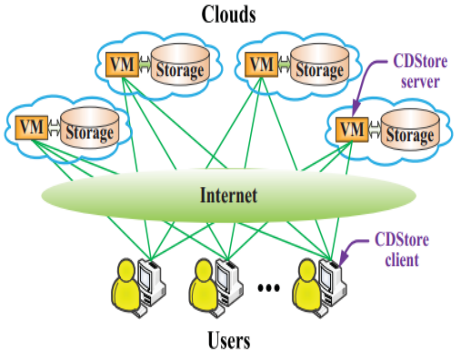

Fig. 4: CD Store Architecture

P. M. Rubesh Anand [6] shows the analysis among many access control models which manage the features in the proposed hybrid model for access management systems by website users. This system worked as a trusted management of identity of web users and its access information. In the hybrid model some authentication as well as authorization scheme is also maintain so that only the correct persons can access only the authorized data which based on role privileges.

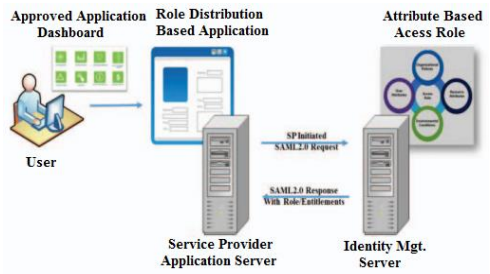

Fig. 5: Proposed Hybrid Model for Authentication and Authorization

Joseph K. Liu [7] introduces a new mechanism which is having factors for authentication access control system in the website. This mechanism is mostly used for web-based application which follows the mechanism based on attribute access control. It is implemented using user secret key and a lightweight security device. So user privacy and its access management are handled by two keys. If these two keys are matched then website users can access the system.

Fig. 6: Access Authentication Process

Wei She [8] proposes a role based website access management which handles the secure data access by website users. This data provenance model is also used for secure access of cross-domain interactions. It is provide the secure accessibility in many multi-domain service-based applications.

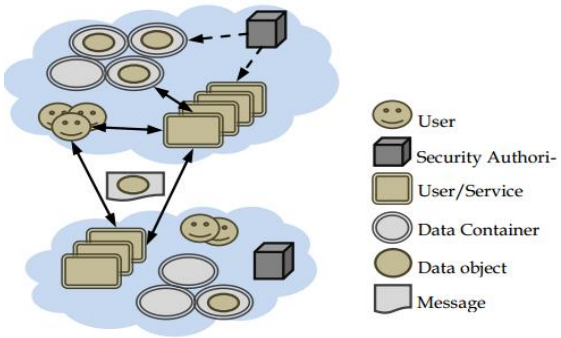

Fig. 7: System Model

Siam U. Hussain [9] proposes the Built-In-Self-Test scheme that is used to evaluate the functions. In the scheme function evaluation is work for both online and offline. It manages security properties of all in hardware when it is online for the evaluation of unpredictability as well as stability of functions.

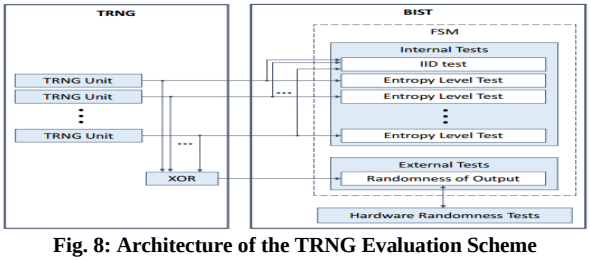

Fig. 8: Architecture of the TRNG Evaluation Scheme

M. Asrar Ashraf [10] proposed a novel Service-Oriented framework that manages the analysis of heterogeneous Deep Packet Inspection. It is used to control many web sites with the secure operations in the available network with the good speed. It provides some API which is used to access data in a secure way so that data is transmitted with lower cost.

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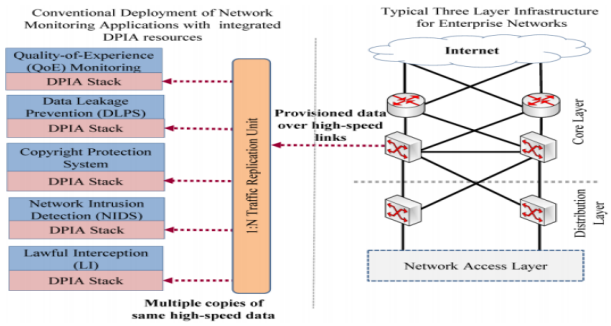

Fig. 9: Conventional Deployment Approach for DPIA Based Systems

Lin Cui [11] defines an approach for a Policy-Aware and Network-aware in Virtual Machine (VM) management scheme. Now these Awares are work jointly for cost reducing in DC communication. It will be possible by using VM migration with follow meeting network policy constraints.

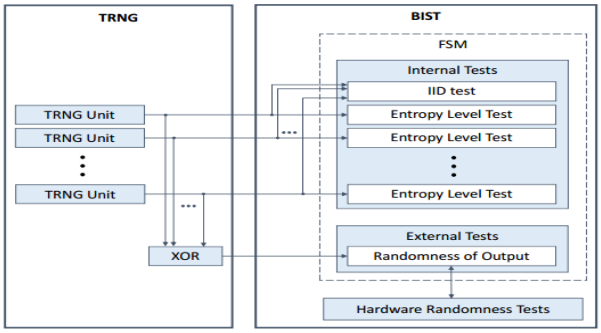

Fig. 8: Architecture of the TRNG Evaluation Scheme

III. ANALYSIS OF PREVIOUS WORK

The following table shows the analysis of previous and current work –

SN.	Authors	Title	Advantage	DisAdv.
1.	Marc Andre Laverdiere	Computing Counter-Examples for Privilege Protection Losses using Security Models	It supports website access management.	It cannot manage the content access management at user access level.
2.	Weili Han	Regional Patterns and Vulnerability Analysis of Chinese Web Passwords	It is handling shading technique which is showing the some useful pattern on password of regional pattern.	It is maintain only observation rule.
3.	Amina Bouroui s	On the Verification of opacity in web services and their composition	It is maintain three types of controlling management for access management.	It verifies the authentication using proposed model.
4.	Lin Liu	A website security risk assessment method based on the I-BAG Model	It handles any fraudulent attack by using some threating factors.	The probability distribution between each node is manage by the proposed conditional.
5.	Mingqiang Li	CDStore: Toward Reliable, Secure, and Cost-Efficient Cloud Storage via Convergent Dispersal	It handles some factor for cost efficient management with reliability using security feature.	It proposed two-stage the duplication of data for the getting good bandwidth.
6.	P. M. Rubesh Anand	Hybrid Authentication and Authorization Model for Web based Applications	It helps to control the organizations by using the e-governance policies for web access management based on user attributes.	It has limitations in the implementation phase.
7.	Joseph K. Liu	Fine-grained Two-factor Access Control for Web-based Cloud Computing Services	It having some policy based on restriction to access to those users which has same set of attributes.	It performs attributes comparison which is more complex.
8.	Wei She	Role based integrated access control and data provenance for SOA based net centric systems	It handles security to access control of data for better security.	It has overload of maintenance of many domain services.
9.	Siam U. Hussain	A Built-In-Self-Test Scheme for Online Evaluation of Physical Unclonable Functions and True Random Number Generators	It maintains some statistical properties for access management.	It control over only input value of attribute and its desired output based on user behavior.
10.	M. Asrar Ashraf	A Heterogeneous Service-Oriented Deep Packet Inspection and Analysis Framework for Traffic-Aware Network Management and Security Systems	It proposed a novel Service-Oriented framework for heterogeneous Deep Packet Inspection and Analysis (SoDPI) that simultaneously provides diversified DPIA services to multiple client applications for network management and security operations in high speed networks.	To manage the load balancing in the network management traffic.
11.	Lin Cui	PLAN-Joint Policy- and Network-Aware VM Management for Cloud Data Centers	To reduce communication cost while adhering to policy constraints.	Initially it takes more execution time.

IV. CONCLUSION

In the proposed research work website users manage the access control model where user is having credential just like user id and password for authentication and authorization. The proposed hybrid model helps to prevent the private information of the web users. This model helps the organizations to implement the governance policies to maintain the website access control using credentials which is based on attribute based on the environmental conditions. The main key benefit of this model is to access control management in the organization so that only registered users is able to access only related information not the other.

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In the future work it will applied in Hospital Management where the patient can access only own related information not other patient information. It can handle big data using cloud for many data repository in distributed environment.

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