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Cloud Based Attack Detection

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Abstract:
Now cyber-attacks are increasing because existing security systems are not able to detect them. The cyber attacks had purposes of leaking personal information by attacking the PC and to reduce the system. The goal of these recent attack has changed to leaking information and destruction of services to attack large scale data like critical infrastructures. To counter this attack the defense technology is based the patterns matching methods that are very limited to this reality. To detect the event of new and previously unknown attack, The rate of detection become very low. To keep safe from these unknown attacks, which unable to detect with existing technology. We proposed the new model based on big data analysis techniques that can extract data file from various sources to detect the attacks in future basis. The model on the basis of the future Advanced Persistent Threat detection and prevention system implementations.

Keywords: Cyber attacks, Security systems, Intrusion detection.

1. INTRODUCTION

The personal past leaked information. This type of attack is also called as Advanced Persistent Threat. ADVANCED PERSISTENT THREAT aims to identify system and analyses vulnerabilities of the system for a long time. Therefore it is hard to prevent and detect ADVANCED PERSISTENT THREAT than traditional attacks and could result massive damage. In todays detection and protection systems were use firewalls, for defending against cyber-attacks intrusion detection systems, and from the intrusion prevention systems for better security, and anti-viruses solutions, data encryption solution and so on. The integrated monitoring technologies for managing system logs were used. This kind of security solution are developed on the basis of signatures. By the inspection of the various intrusion detection systems, reports and intrusion prevention systems they were not capable of protecting systems against ADVANCED PERSISTENT THREAT attacks because they don't have signature to overcome from this problem, security in data is beginning to apply heuristic and data mining technologies detect attacks that are occur previously and newly. Were Big data has been a great issue in the IT industry for the last many of years. This define large, small created and typical data in digital environment like text, music, video, etc. Big data analysis is a technology that searches useful information such as a relation rule, were hidden value from huge data. Big data analysis uses various existing analysis techniques, data analysis and etc. Among various techniques, focusing on four techniques prediction, classification, relation rule.

It is means that these techniques are useful to detect unknown new attacks. The prediction is a technique that predicts the future possibility and trend. The Regression analysis is a data representative and prediction technique for data analysis. Researchers can predict attack possibilities by regressing analysis. Regressing analysis can predict behaviors from collected attack data. Second, classification is a technique that predicts the group of new attack from data. Classification helps security program to decide direction of protection and analysis. Most used classification techniques are logistic regression analysis and Support Vector Machine. In this paper, are not proposing effective parallel processing algorithm for real time analysis. At the use of pattern matching or log analysis for predicting data from cyber attacks, It believe that can extract valuable information and status information that can be collected from various sources by big data analysis. To apply and validate various analysis methodologies using big data, need professional software and distributed system. In future works, to implement proposed system and get results using real factors and analysis methodologies. Due to rapid development of Internet and technology, all the machines are connected with one another whether by networked system or by the mobile communication. The users are producing more and more data through communication media in the unstructured form which is highly unmanageable and this management of data is the challenging job. The main focus is to gather the unstructured data from all the terminals, processed the data to convert into structured form so that accessing of the data would be easier. For this, always a track is kept on data, that this data or event belongs to which category. Accordingly, data is analyzed and processed to convert it into meaningful and right information by using the concept of Big Data Analytics. Big Data Analytics accepts the huge data sets and different data types, both half structured and not web pages, texts files or electronics mails etc. and convert it into reliable information. Big data analytics describes the simple algorithm for large amount of data without compromising performance. Analysis algorithm is provided directly to database which go beyond the pack and invent newly more sophisticated statistical analysis. Big Data Analytics use number of tools to do the analysis and processing of data in meaningful way. Hadoop is a tool which aim is to increase the performance of data processing. Hadoop is a software framework for processing and store big data to work under the Big Data Analytics.

It is an open-source tool build on platform and aimed at to improve the performance in terms of data processing on clusters. Hadoop includes of multiple ideas and ways to perform the process of very easy and fast of big data. Hadoop is different from Relational databases and can process the high volume, high velocity and high variety of data to generate value In this paper, it proposed that the use of Big Data Analysis for analyze large amount of data. Here we discussed an Enterprise data security is challenging task to implement and the strong support is call in term of mechanism and other security policy for securing data from attack. We plan to take up data collection, pretreatment, integration, map reduce and prediction using machine learning techniques. We are developing security alerts which will provide employees with the ability to view the activity.

2. PROPOSED SYSTEM

In order to build the defense-in-depth in intrusion detection framework for data analysis. To have more examination , large data incorporates attack graphs and analytical procedures to the instruction detection processes. A cloud system with hundreds of nodes will have huge amount of alerts lifted by Snort. All of alerts cannot depends on, the effectual mechanism is required to verify whether such alerts can require to be inscribed. Hence Snort can be programmed to develop alerts with CVE id, one proceeds towards that work provides is to match if the alert is literally related to some vulnerability being utilized.

The design of attack can not intend to improve the existing intrusion detection algorithms; indeed, employs a reconfigurable virtual networking approach to detect and counter the attempts to compromise, thus protesting zombie If so, the present of that vulnerability in SAG means that the alert is more easily to be a actual strike. Thus, the unreal positive rate will be the joint chances of the related between alerts, which will not high the unreal positive rate compared to each individual unreal positive rate. Further it can't be keep aside the case of zero day attack where the vulnerability is discovered by the attacker but is not detected by computer security weakness scanner. In such case, the vigilant being real will be related to as false, given that there does not exist correlated node in SAG. Thus, present research does not in script how to decrease the incorrect negative rate. It is important to note that security weakness scanner should be able to expose most new vulnerabilities and synchronous with newly vulnerabilities database that decreases the chance of Zero-day attacks on data. Rate limiting mechanisms extend the rate of packet approach. It is important that rate limiting mechanisms only limit the rate of main packets and do not disturb legitimate flows. Furthermore, these rate limiting mechanisms should not incur a lot of extra over head and they shouldn't be come a source of denial of service. Here we combine some concepts which are available and associated with new intrusion detection techniques. Here to me rge Entropy based System with detection System for providing multilevel Distributed Denial of Service attack.

This kind of attack is done in two steps which are given below First step, Users are allow and pass by the router site that it incorporates Detection Algorithm and detects for legitimate user. Second step, again it pass through router placed in cloud site in that it incorporates confirm at ion Algorithm m and checks for threshold value, if it's beyond the threshold value it considered as legitimate user, else it's an intruder found in environment. The result of this attack, even the clients are expects and wait for server for their response the server does not register its response to the clients according to their requests. This increases the infra structure response time. When the infra structure response time increases, it automat ica lly increases the resource utilized ion. CPU utilized ion and also time taken to create a virtual machine. Computers become part of a zombie network through malicious software automatically installed by the security networks ac door and it can install by user unknowingly, or decreasing the Web browser vulnerabilities in attack detection.

The specified networking port open leaved by malware. allowing computer access by outside users. Samekind of malwares are run on Zombie networks that may have multiple networks operated by different criminal entities. The denial of service attacks are perpetrated by zombie network including this type of attack, adware, spyware, spam and click fraud.

3. CONCLUSION

A distributed weak security detection, quantification, and countermeasure selection mechanism that must be built and based on the analytical models of big data analysis and network-based countermeasures. The used framework used to optimize advantages the network programming to make and monitor that can control plane to random programmable virtual in order to significantly efficient attack detection and mitigate attack consequences.

4. REFERENCES

[1]. Marquand, Robert; Ben Arnoldy; "China Emerges as Leader in Cyberwarfare," The Christian Science Monitor, 14September2007, -woap.html

[2]. Rain; "Analysis of the 2007 Cyber Attacks Against Estonia from the Information Warfare Perspec tive," Proceedings of the 7th European Conferences on Information WR-fare, Plymouth, 2008

[3.] Brewin, Bob; "U.S., British officials target Chinese as Source of cybe rattacks," Gover n-ment Executive, 4 December 2007, www.govexec.com/defense/2007/12/us-british officials target chinese as source of cyberattacks /25 874/

[4]. Clayton, Mark; "US Oil Industry Hit by Cyberattacks: Was China Involved?," The Chri tian Science Monitor, 25 January 2010, www.csmonitor.com/USA/2010/0125/US

[5.] Samuel, Henry; "Chip and Pin scam 'Has Netted Millions From British shoppers'," The Telegraph, 10 October 2008, www.telegraph.co.uk/news/uknews

[6] .Drummond, David; "A New Approach to China," GoogleBlog, 12 January 2010, http://googleblog .blogspot. com/ 2010/01/new

[7].A.K.Sood, R.J. Enbody "Targeted Cyber attack: A superset of advanced persistent threats" Security & Privacy, IEEE Volume 11 Issue 1, pages 54-61, Jan-Feb, 2013.

[8] Apache Hadoop Project http://hadoop.apache.org/

[9]. "Hadoop Tutorial from Yahoo!", Module Managing HadoopCluster.http://developer.yahoo.com/hadoop/tutorial/module7.html#machines

[10]. K. Shvachko, H. Kuang, S. Radia and R. Chansler, "The Hadoop distributed file system", in poc. The 2010 IEEE 26th

Symposium on Mass Storage Systems and Technologies (MMST) 2010.

[11.] F. Cuppens and A. Mige, Alert correlation in a cooperative intrusion detection framework, in Proc. IEEE Symposium on Security and Privacy, Berkeley, California, USA, 2002, pp. 205-215.

[12]. A. Hofmann, I. Dedinski, B. Sick, and H. de Meer, A novelty driven approach to intrusion alert correlation based on distributed hash tables, in Proc. 2007 IEEE International Conference on Communications (ICC), Glasgow, Scotland, 2007, pp. 71-78.

[13]. B. Mu, X. Chen, and Z. Chen, A collaborative network security management system in metropolitan are a network, in Proc. the 3rd International Conference on Communications and Mobile Computing (CMC), Qingdao, China, 2011, pp. 45-50.