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PROTECTION OF E COMMERCE WEBSITES FROM D- DOS ATTACK

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***Abstract*— This paper deals with the importance of E-commerce, challenges faced by the companies in the fields and the solutions to the challenges, opting to which would increase the opportunities. Also, this paper explains the most common attacks on any e commerce business D-DOS attack i.e. the Distributed Denial of Service, the Client and Server Side Security Issues and the most important issue of Transaction Security which involves how to limit the risk of money loss and other practical problems faced by the customers in day to day life.**

I. INTRODUCTION

E-commerce, the term used quite frequently now-a-days is selling and buying of goods on internet or even the transfer of funds is also e-commerce. The transactions occur business to business, consumer to consumer, business to consumer or consumer to business. E-Commerce is now-a-days growing exponentially as lots and lots of e-commerce websites are becoming a part of the web on a daily basis, which directly links to the point that the competition is at its peak. To be a part of this competition the companies not only have to sell their goods at the best prices but also do something so that more customers are attracted towards them. Even when the competition is rising there are some companies which are treating their customers with ignorance eventually leading to loss of customers and thus are being beneficial to their competitors.

To be a part of this healthy and fierce competition there are some challenges that arise in the path of every E-Commerce business:

- **Personalization:** The companies have got the younger generation to sign up for the websites but they often forget the large part of our population is above 40years, who prefer offline shopping as they know the retail store owner knows them and would give them some sort of loyalty discount and moreover they know that don't have to spend more time their needs would be fulfilled by them so Personalization becomes an important challenge to overcome. No problem comes with a solution so to overcome this issue the web sites could use advanced tools like web analytics tools, study customer behavior online, reward and reach out to customers or in simple words the more personalize you become more customers would use your website.
- **Segmentation:** Let's say you have great deals, great goods and extraordinary delivery time even then you are not making that much money you should be making, and the possible reason could be segmentation. A lot of websites have this issue in which they just put their goods without proper segregation which makes the customers furious and they switch you with someone who has a better interface and is easy to navigate. So, navigation is important in any E-Commerce website.
- **Product Return, Refund etc.:** The most fascinating feature of E-Commerce websites if you don't like it we will refund it or exchange it with something you like. It is a great feature for the customers but the owners they have to face loss in such a situation in every phase from the delivery cost to the shipping cost, the entire revenue model is taken a back. So, to solve this issue the companies should keep a close tab on what there dealers are selling and should benchmark the quality of products so that no dealer sends tampered or bad quality products which eventually lead to your loss.
- **Shipping:** When a customer orders something it is not dispatched for him specially unless and until he has opted for speedy delivery. The best strategy is to have warehouses in almost every city where the service is being offered and putting an x amount of stock ready in that case if an order is made the good can be dispatched from the nearest warehouse and the customer satisfaction level would increase on grounds of speedy delivery.
- **Taxation and Currency:** There are some websites that operate in one part of the world and to use their services you have to pay in their currency which hinders the expansion of E-Commerce businesses. In such cases, the issues such as credit card limits and currency exchange rates come into play due to which certain countries have already restricted payment gateways causing problem. Also, when it comes to duties and taxes every country has different norms for the same so if you're planning on going

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international you should pay your duties well in advance so that anytime in near future you don't have to be unsatisfactory to your customers.

- **Customer Service:** Many websites offer the helpline but are unavailable, the forums but don't answer the queries just provide a list of FAQs so customer satisfaction would only increase if you offer 24*7 service online and also sending them mails about deals and promotions so that they don't forget you.

What we discussed here are the challenges that arise in any business in an E-Commerce but the problem doesn't ends here. When you go online you're afraid by Hackers that they don't hack into your system and ruin your business so we should also protect our system as well as the discrete information of our esteemed customers is not misused. One such problem is D DOS attack.

II. PROTECTION OF E COMMERCE WEBSITES FROM D- DOS ATTACK

In this fast growing world the internet affected all across the globe and everyone in this world Is probably familiar to the word internet and the word internet define itself with e commerce now a days . This world is growing very fast with e commerce websites and applications and as the site grows the attacks, risk and issues are also growing with this and one of among them is D-Dos (Distributed denial service).

This attack was first introduced in 1999 and after that this attack is growing like a virus. In this attack numbers of computers are affected all together and connect to a particular destination to overwhelm the bandwidth or processing power destination with 100 or more than 1000 requests and shut down its services. In the very first attack 227 systems were affected all together and got flooded subsequently. And from then this attack was came into existence and got breakthrough in information and working technology.

The process through which we can attack with D-Dos attack in a simple language, we can say that D-Dos attack is simply outlined or depends upon the attacker capability and objective. For attack we have to give some commands to botnet for flooding the target and after this it takes little less than 5 minutes to flood out the site at peak point.

Where as in defense process we can say that the best way to defend D-Dos attack is to migrate the attack traffic without any service disruption. In simple language we can say that if we want to safe surfing then all we have to worry about high value online services which include online banking, e commerce transaction, social media and other files which include our own personal information. And for better protection we can take some of the steps like conducting an enterprise risk assessment, and we can also create an action plan, gathering information about infrastructure components, understanding IPS options for D-Dos defense, implement and tune mitigation technologies, lesson learned after D-Dos attacks.

The most important issues which e commerce is facing right now are

- Server side security issue
- Client side security issue
- Transaction security issue

Server site security issue

There are two side which are the backbone of this entire system server and client side and as we talk about server site we trust so much on server that we share our all the details of credit debit cards and net banking passwords all the personal information to the server. We generally share all the details of mobile banking and our account details with server while interact with the server but have we ever think about this that is that safe? Did server keep all the information safe with them ? but if you are sure about the site to which you are sharing all the information then you get quit relief. This is the problem which we are dealing with server now days if we share our details with wrong server this cause lots of issues for us. This is the issue which is related to server side remote code injection is one of the most main vectors which is used by malware to propagate. Now a day many codes are injected to clients for their information and many ads are generated which automatically install in clients system and extract all the information from client system. Some of the common server side security issues are attack related to Facebook and other social media, risk to cloud services, black hole and android attack.

Client side security issues

We the clients are facing lots of issues related to e commerce during online banking, transaction and surfing. Many tools and web applications are made for disclosing information from client side. Most commonly used are phishing and cookies this can get access over our pin, passwords, user id and other essential information or coping all the information from your own cookies there are many tools using java and html based on sand box mechanism are made for safe side for clients but you cannot depend on these tools because these tools cannot protect you completely only limited number of actions can be protected from these tools. But now a days many other tools are made which are better than previous one.

Now a days some of the challenges which we clients facing are Java script attacks, salting, encoding, auto-complete, password rest, roaming, dictionary attack. And some of the points which are related to client side security are-

Content sniffing attack is type of attack in which attacker attempt or deduces the file format or it simply changes the content or the format. Types of XSS attack in which there are three types of attacks are present DOM based attack stored attack and reflected attack.

This generation is growing very fast in every field including wireless medium so this is very important that we should pay more attention towards them unwanted website pop up add are generated for clients to disclose the information so we are

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developing many tools for security for both server and client side security

Transaction Security

These days e commerce pay very wide role in our life we make almost every transaction through e commerce which helps the growth e commerce and e services. Now we can exchange any types of goods through any form of money very thing we buy or rent we can pay through e commerce we can pay or bills of anything we can book or buy any kind of ticket or reservation in just one click but is it safe to do so? If we pay attention towards this scenario if we buy anything online; electronic payment methods; credit card; digital signature; digital cash; online stored value system; e payment methods; financial edi; smart cards etc. there is no such secure method for payment method which is available over internet. We share our details with internet and we are not sure that it will not be misused so now customers need proper transaction method to be introduced so we can be sure about any transaction we make or do. Now e need e payment system to be introduce for better security to online payments which not only provide secure payment method but also provide some properties like online customer, merchant authentication, unforgivable proof of transaction authorization by the customers to both merchant and the bank, privacy of customer and transaction data for risk during online transaction.

Now many server or website follows these steps for secure transaction

- Customer opens master or visa card online payment system and fill up the information of his/her credit card.
- During transaction all the customers gets a digital certificate made by certificate distribution authority which includes public key and expiry time which is required for secure transaction.
- Certificate from credit/debit card issuer bank is given to trusted third party.
- Customer confirms the order through web page of merchant's website.
- Web page of browser of customer validates the authenticity of merchant and confirms that the merchant is authentic and valid.

As we talk about some of the background of transaction then Secure Electronic transaction was made by VISA and Master card with help of many companies like Microsoft, GTE, IBM, Netscape, Verisign and RSA in 1996. Secure electronic transaction was based on X.509 certificates, which is a digital certificate used for verification purpose. The first version of SET was launched in May 1997.

So now an encryption technique for SET and it play very important and revolutionary role in secure electronic transaction over wireless network. The main advantage of multiple encryptions is to provide better security.

III. CONCLUSION

In the above research paper we went through many points which are really important part of e commerce we studied about security of password, protection of e-commerce website from d-dos attack, some issues related to server side, client side, and transaction securities. We learned about many types of attack in ecommerce. Password is an important part of our life in different sector every account need password which is strong, effective, memorable and good password to protect form unauthorized logons and loss of data. The real purpose of security on a computer system is to try and make our life free from hackers and crackers. Unfortunately one of the major tasks which are faced is about a limited cognitive capacity. Now a day many problems are faced related to cybercrime one of these are D-Dos attack. This attack is trying to target every level in data center. Many of the good companies are well known about this attack and they are defending this properly and strongly whereas some of the minor companies which are not able to defend this attack. As the D-Dos attack is growing in large No so it is very important to stop it and now many mitigation technologies are lunched to defend it. There are many problems for server side, many security issues related to server side. We have to be insure about the server and server have to trust on us the connection between both bring for successful transaction in e-commerce. These days web based attacks is major problem for all even we are working at on it but many of the types attacks which are not caught. An encryption technique for SET and it play very important and revolutionary role in secure electronic transaction over wireless network. The main advantage of multiple encryption is to provide better security because even if some security or any types of key are cracked or some type of cipher text are broken then the confidentiality and privacy of data can be maintained by this. These types of encryption are an important part of electronic commerce in our future. The premise that internet will break down barriers and create more even access appears not to be the case. Indeed evidence suggests that the internet just strengthens the current imbalance in society.

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