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Detection of DDoS Attack

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Abstract: *DOS Attacks or Denial Of Services Attack have become very common amongst Hackers who use them as a path to get fame and respect in the underground groups of the Internet. Denial of Service Attacks basically means denying valid Internet and Network users from using the services of the target network or server. It basically means, launching an attack, which will temporarily make the services, offered by the Network unusable to legitimate users. DOS attack use to stop legitimate user from accessing computer or web services. In others words one can describe a DOS attack, saying that a DOS attack is one in which you clog up so much memory on the target system that it cannot serve legitimate users. Or you send the target system data packets, which cannot be handled by it and thus causes it to either crash, reboot or more commonly deny services to legitimate users. We are making a software that is online DOS attack prevention which will protect the web servers.*

Keywords: Denial of services attack, network unusable

I. INTRODUCTION

As DoS attacks have become one of the most dangerous security issues, the need to detect these attacks has increased. DoS has become an effective weapon for cyberwar fare, called “hacktivist” groups, rather than just a “game” that some attackers play for fun. DoS attack often require detection before they can propagate. DoS detection is often part of larger intrusion detection system(IDS). An IDS is best defined as software or hardware used to detect unauthorized traffic or activity that violates an approved policy for a given network. Intrusion detection is not a new area of research, and Anderson published one of the first papers on IDS in 1980. In 1987, Denning provided a framework for researchers working on IDS. An IDS can be categorized based on its operational component (location of the audit source) as host-based, network-based, or a combination of both. In a host-based IDS, audit information such as application and operating system logs is monitored, while network traffic is monitored in a network-based IDS. Host-based systems are usually on a single host, while network-based systems are usually on separate machines from the host they are protecting.

Distributed Denial of Service (DDoS) attacks have become an increasingly frequent disruption of the global Internet [MVS01]. It’s difficult to protect against because the target is online rather than targeting a specific vulnerability inn the system. All known Ddosattacks use large numbers of hosts on the Internet with little or no protection. Criminals break into these hosts, install slave programs, and over time command thousands of slave programs to attack specific targerts. Attacks do not need to exploit a security hole in the target to cause trouble(which would make the problem worse in the attacker's favor)**.** Unlike most security attacks, victims don't have to do much to protect themselves. Often, it is not a specific vulnerability that is attacked, but the fact that the victim is connected to the network. Under normal operating conditions, standard congestion control such as TCP ensures fair use of available resources when communication channels and processing power are fully dedicated. In DDos attack, incoming packets do not follow end-to-end congestion control algorithms.

Instead, they continuously attack their prey, causing well-behaved streams to retreat and eventually starve to death In addition, large-scale DDos attacks not only cause problems for the intended victims but also disrupt other traffic that can be shared with highly congested parts of the network.

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II. MODULE IDENTIFICATION

Module 1: Registration

Page: In this module, the reset process is performed when a new password is generated using a forgotten query. Newdat a entries are updated in the database.

Module 2: Login Page

In this module, the authenticator when user side need valid username or password and validate it from database.

Module 3: **File Download**

This module is responsible for downloading specific data from the server, In one case, we are planning to use the book i nformation for downloading.

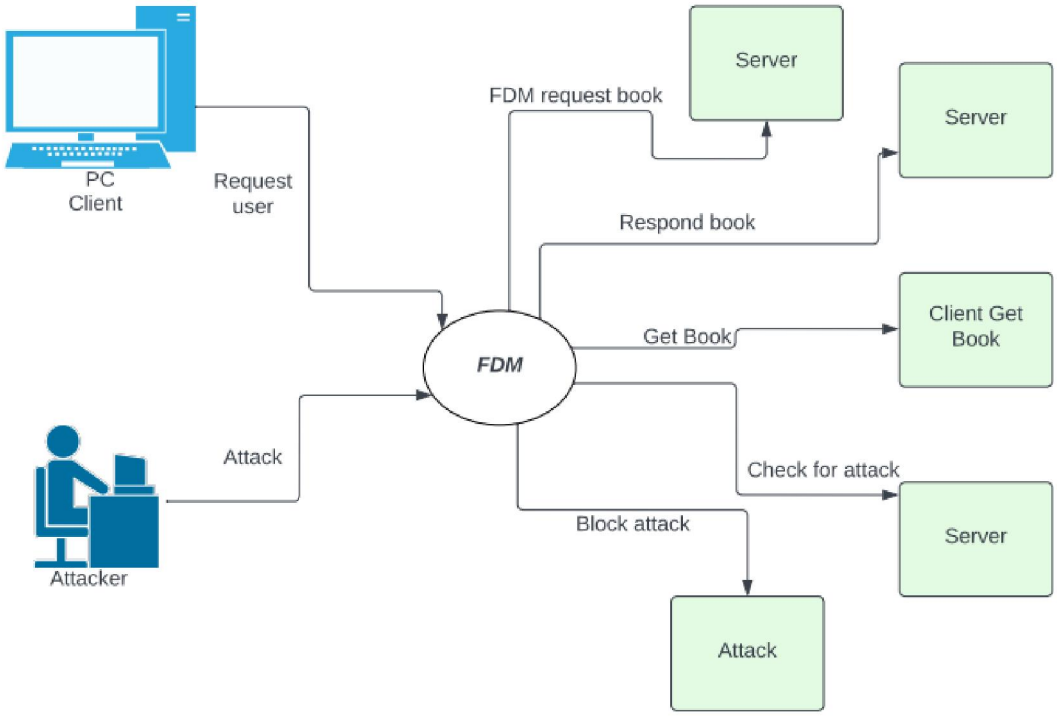
Module 4: Attacks

This module is responsible for extracting attacker level activity when transferring data from source to target. Identificati on is based on events occurring at each node in the network.

Module 5: Prevention

This module is used to update the connection between network nodes after avoiding the connection of attackers.

III. ARCHITECTURE DIAGRAM



IV. SCOPE

The main goal of my project is to provide a smart way to not only detect attacks, but also prevent them in the future. Al so, current challenges and possible solutions to identify adversaries are given.

V. RELATED WORK

The United States Computer Emergency Response Team defines symptoms of denial-of-service attacks as including:

- Unusually slow network performance (opening files or accessing web sites)

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- Unavailability of a particular web site
- Inability to access any web site
- Dramatic increase in the number of spam emails received (this type of DOS attack is considered an email bomb).

If the attack is conducted on a sufficiently large scale, entire geographical regions of Internet connectivity can be compromised without the attacker's knowledge or intent by incorrectly configured or flimsy network infrastructure equipment.

VI. PROBLEM DEFINITION

This project will be used where it is vulnerable to DOS attacks. The software will be installedonthe server side and will help prevent DOS attacks by keeping attackers at bay.

VII. CONCLUSION

DDos attack tools are readily available, and any Internet host can act as a Zombie or the ultimate DDos target. These attacks can be costly and frustrating, and they are difficult, if not impossible, to eradicate. The best defence is to keep attackers at bay with vigilant system administration. Applying patches, updating antimalware programs, monitoring the system, and reporting incidents can not only slow DDos attacks, but these defenses can also protect against other attacks.

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