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VIRTUOUS HACKING

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ABSTRACT

Today more and more software's are developing and people are getting more and more options in their present software's. But many are not aware that they are being hacked without their knowledge A good hacker needs to solve the problems as well as create new hacking environments for further usage in a good way.

INTRODUCTION

Ethical hacking(virtuous) also known as penetration testing or white hat hacking, involves the same tools, tricks and techniques that hackers use, but with major difference that ethical hacking is legal. Ethical hacking is performed with the targets permission. The intent of ethical hacking is to discover vulnerabilities from a hacker's view point so system can be better secured.

- Overall information risk management program that allows for ongoing security improvements.
- Ethical hacking can also ensure that vendors claims about the security of their products are legitimate

Security:

Security is the condition of being protected against danger or loss.
It means protecting information and information systems from unauthorized access, use, disclosure, disruption, modification or destruction.

Need for Security:

When hackers intrude into private systems, it causes so much damage to the data.
There may be several forms of damage which are interrelated, produced by the intruders.
These include:

- Loss of confidential data.
- Damage or destruction of data.
- Damage or destruction of computer system.
- Loss of reputation of a company.

Types of hackers:

On the basis of why they are hacking the others systems, hackers are broadly classified into three main types, they are-

- Black hat hacker.
- White hat hacker.
- Grey hat hacker.

- **Black hat hacker:** A black hat hackers or crackers are individuals with extraordinary computer skills, resorting to malicious or destructive activities.

- **White hat hacker:** white hat hackers use their skills in defense for a good cause by providing positive services that are learnt by them professionally.

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- **Grey hat hackers:** these are individuals who work both offensively and defensively at various times, we cannot predict their behavior

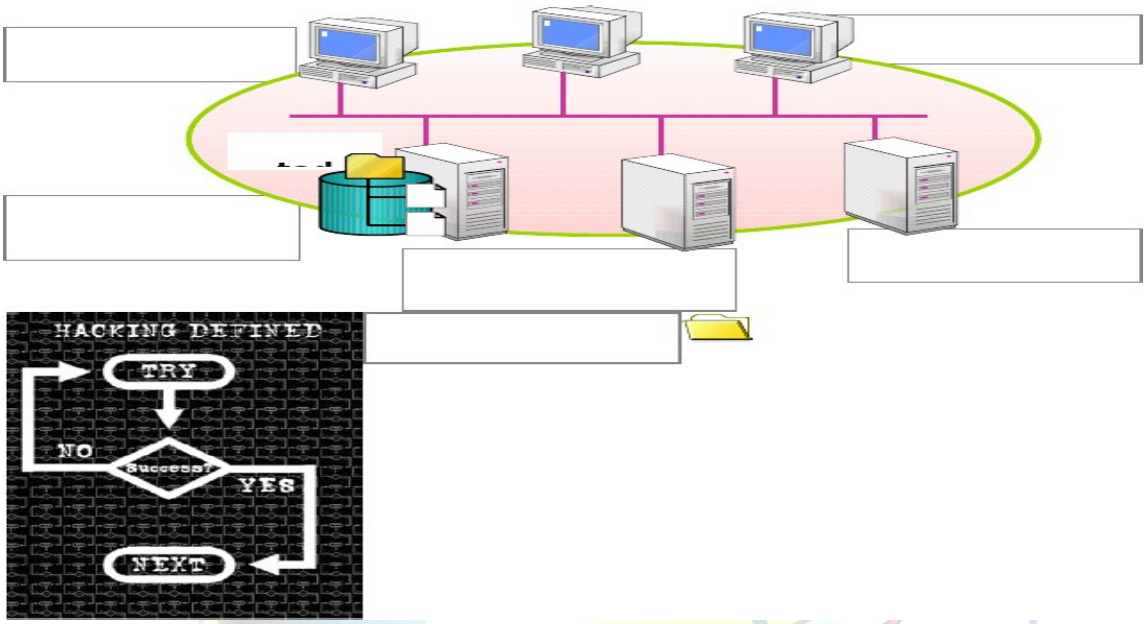

Figure: **ethical hacking between various systems**

Ethical hacking:

Defined as "hacking into people's system's without causing harm".

In their search for a way to approach the problem, organizations came to realize that one of the best ways to evaluate the intruder threat to their interests would be to appoint the experienced hackers to provide secure operations.

What do an ethical hacker do?

An ethical hacker is a person doing ethical hacking that is he is a security personal who tries to penetrate into a network to find if there is some vulnerability in the system.

Every hacker must be able to easily enter the system without effort. An ethical hacker will first think with the mindset of the hacker who tries to get into the system. If he wins in intruding the system, the particular system's behavior is explained to the organization briefly. The hacker can modify the content without the person's knowledge. He may suggest some methods to prevent the vulnerability

Required skills of an ethical hacker:

- **Microsoft:** hacker must know the systems compatibility and its configurations.
- **Linux:** hacker should know about different operating systems including Linux and Unix.
- **Firewalls:** configurations and operations of intrusion detection systems
- **Routers:** knowledge of routers, routing protocols and access control lists.
- **Main frames, network protocols:** TCP/IP; how they function and can be manipulated.
- **Project management:** leading, planning, organizing and controlling a penetration testing team.

Ethical hacking command movements:

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Every ethical hacker must abide by a few basic commandments, the commandments are as follows:

Working ethically: working with high professional morals and principals, an ethical hacker must support the company's goals. Hidden agendas, misuse is not allowed!

Respecting privacy: Treat the information gathered with respect. While testing, the hacker must give the information and important data like passwords and pin numbers with high protection.

Not crashing systems: one of the biggest mistakes hackers try to hack their own systems is inadvertently crashing their system. The main reason for this is poor planning.

Methodology of hacking:
Virtuous hackers have invented new tools to intrude into various pc's and to play with the privacy involved.

Some of the widely used tools in ethical hacking:
Sam spade:
A simple tool which provides us information about a particular post. This tool is very much helpful in finding the addresses, phone numbers etc.

Email tracker and visual route:
We often used to receive many spam messages in our mailbox. We don't know where it came from. Email tracker is a software which helps us to find the source. Every message we receive will have a header associate with it. The mail tracker uses this header information to find the location.
Visual route is a tool which displays the location of a particular server with the help of IP addresses. When we connect this with the email tracker we can find the source.

Some important tools used are:
- War dialing
- Pinger's
- N-map etc.

Advantages and disadvantages:
Ethical hacking now-a-days is the back bone of network security. Each day its relevance is increasing, the major pros and cons of ethical hacking are given below:

Advantages:
- Helps in closing the open holes in system network.
- Provide security to banking and financial establishments.
- Prevents website defacements

Disadvantages:
- All depends upon the trust worthies of ethical hacker
- Hiring professional's is expensive

CONCLUSION

We should understand by this report that a hacker can intruder into any system with many techniques that may or may not cause harm. No software is made with zero vulnerabilities. Business is directly related to security.
- Educate the employees and users against black-hat hacking.
- Use every possible security measures like honey-pots, Intrusion detection, systems, firewalls etc..

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- Every time make our password strong by making it harder and longer to be cracked.

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