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<div align="center">Ethical Hacking</div>

An ethical hacker is a computer and networking expert who systematically attempts to penetrate a computer system or network on behalf of its owners for the purpose of finding security vulnerabilities that a malicious hacker could potentially exploit.

Ethical hackers use the same methods and techniques to test and bypass a system's defenses as their less-principled counterparts, but rather than taking advantage of any vulnerabilities found, they document them and provide actionable advice on how to fix them so the organization can improve its overall security.

The purpose of ethical hacking is to evaluate the security of a network or system's infrastructure. It entails finding and attempting to exploit any vulnerabilities to determine whether unauthorized access or other malicious activities are possible. Vulnerabilities tend to be found in poor or improper system configuration, known and unknown hardware or software flaws, and operational weaknesses in process or technical countermeasures. One of the first examples of ethical hacking occurred in the 1970s, when the United States government used groups of experts called "red teams" to hack its own computer systems. It has become a sizable sub-industry within the information security market and has expanded to also cover the physical and human elements of an organization's defenses. A successful test doesn't necessarily mean a

network or system is 100% secure, but it should be able to withstand automated attacks and unskilled hackers.

Any organization that has a network connected to the internet or provides an online service should consider subjecting it to a penetration test. Various standards require companies to conduct penetration testing from both an internal and external perspective on an annual basis and after any significant change in the infrastructure or applications. May large companies, such as IBM, maintain emplo0yee teams of ethical hackers, while there are plenty of firms that offer ethical hacking as a service. For example, my dad's company hired ethical hackers to come in and obtain all of their information and then tell them how long it took to get everything and then wrote a report informing them of all of their major weaknesses in their security.

References

[SOURCES]