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Analysing Network Security Threats/Attacks

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1. Introduction

- With more data being available online, the need for cybersecurity is essential.
- Information security is important for businesses as they gather confidential corporate information.
- As businesses are patching and updating their systems regularly, cyber criminals are also looking for new ways to attack networks.[1]

2. Aims

- To analyse vulnerabilities within the network/system.
- To ethically attempt to hack into the network such as penetration testing and password cracking, port scanning.
- To identify current security policies put in place. (ACL,
- To manage and reduce the businesses exposure to hackers.[2]

3. Objectives

- To look at current security measures: Firewalls, AntiVirus, intrusion detection, Port scanning, passwords, access control lists, threat detection.
- Password cracking to look for weak passwords.[Cain & Abel]
- Analysing the encryption methods that are put in place.
- Test to see if the system is accessible through unauthorised access.

4. Resources

- Specialist software such as vulnerabilities scanners and security auditing tools. [3]
- Penetration testing tools i.e Metasploit, Wireshark.[4]
- Threat detection technology i.e. honeypots
- Simulation tools for testing purposes.[5]

5. Conclusion

- After discovering vulnerabilities within the network, a new plan will be devised in order to implement a new security policy to protect the business.
- Variety or security measures will be discussed such as authentication, intrusion, web security, internal & external security.

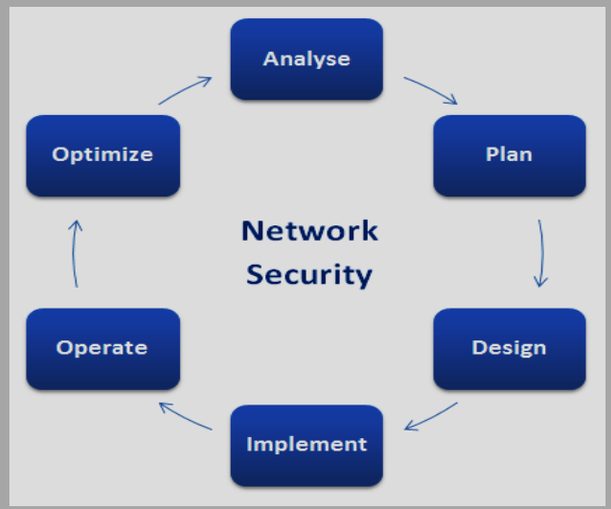

Figure 1 – Process plan

[1] "IEEE Xplore Full-Text PDF:" [Online]. Available: http://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=63859. [Accessed: 05-Oct-2017].
[2] "IEEE Xplore Full-Text PDF:" [Online]. Available: http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7929663. [Accessed: 05-Oct-2017].
[3] J. Y. Yien Wang, "IEEE Xplore Full-Text PDF: Ethical Hacking and Network Defense: Choose Your Best Network Vulnerability Scanning Tool." [Online]. Available: http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7929663. [Accessed: 05-Oct-2017].
[4] "Introduction - Metasploit Unleashed." [Online]. Available: https://www.offensive-security.com/metasploit-unleashed/introduction/. [Accessed: 05-Oct-2017].
[5] "Password Cracking Using Cain & Abel." [Online]. Available: http://resources.infosecinstitute.com/password-cracking-using-cain-abel/#gref. [Accessed: 05-Oct-2017].