

Building a Secure Home Network

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INTRODUCTION

The purpose of the research project is to build a more secure home network. The poster will have information on what aims and objectives I aim to complete by the end of the project, The methods that will be used to reach the objectives and what risks might be involved throughout the process.

AIMS

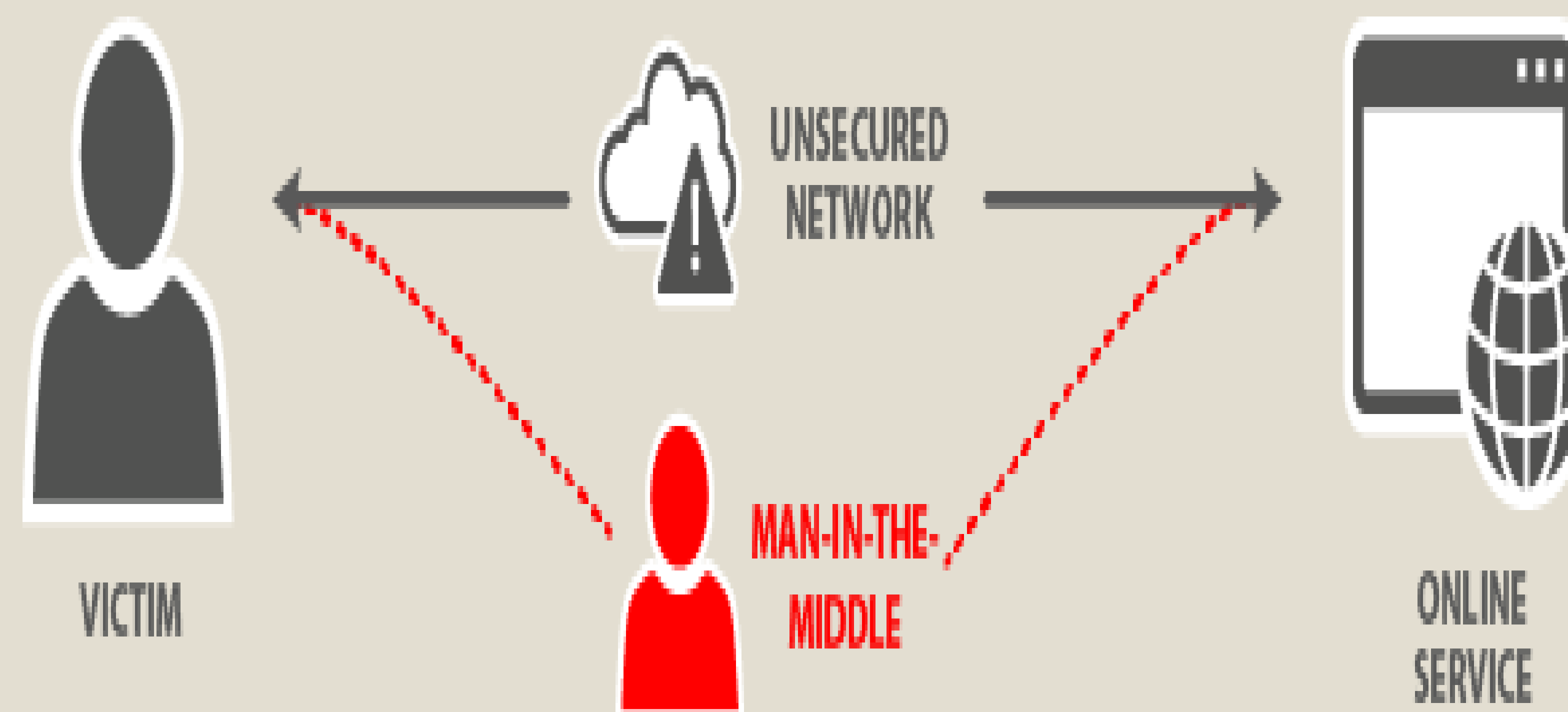
- I. To exploit the current state of a regular home broadband users router (To show that just by buying the product and using it does not mean the security is up to date or at least working).
- II. To create a more secure home network from the point of inside the home and outside. This includes WIFI snoopers, IP logging (Public Address Shown) or even DHCP attacks inside the network.

OBJECTIVES

- I. To create three simulation networks which will show basic network attacking methods from inside and outside of the network and If the network can withhold the attack.
- II. To configure the three simulation networks differently. Sim1 will be setup as a regular broadband router with regular security. Sim2 uses free security software such as free VPN's, Sim3 uses paid protection.



[1]



[2]

METHODS

- I. Packet tracer – To create the three network simulations on which each of them will be tested on level of security. [3]
- II. Questionnaire – To gather information on the amount of people who have just installed the broadband router and didn't add extra security (Free security or paid security).

RISKS

- I. The Questionnaire must add extra information to make sure that all users with and without networking knowledge can understand the questions clearly to answer correctly.
- II. The Packet Tracer software must support the necessary protocols on which it can act as a normal everyday router. The software must also support methods on which it can be used to exploit vulnerabilities inside and outside of the network.

REFERENCES

1. <http://www.pngall.com/wp-content/uploads/2016/07/Networking-PNG-Image.png>
2. <https://hypersecu.com/images/blog/MITM-attack-diagram-01.png>
3. <https://www.netacad.com/courses/packet-tracer-download/>