Balance between wireless security and performance - thesis proposal example

Technology, Information Technology

Balance between wireless security and performance

0 PROPOSED TOPIC. The proposed topic for the research is " Improving the wireless network: achieving a balance between security and performance."

2. 0 INTRODUCTION

Of late, the use of wireless devices for various uses ranging from private to commercial has risen to great extents. This wide array of uses includes communication, mobile commerce as well as business transactions. Although they have been accepted as convenient, the wireless systems have been under scrutiny about their level of security. The wireless security systems have been scrutinized as being restricted in terms of performance. Studies have indicated that eavesdropping is quite easier in the wireless security than in the Local Area Network. This is because; in the Local area Network, a person has to have physical connection in that particular network (Berbecaru 20).

3. 0 BACKGROUND OF STUDY

This physical connection is easily detected and can be traced to the eavesdropper. This as a result has made the wireless security be under scrutiny since it fails to offer the appropriate security. The security risks that accompany the wireless environment are quite exposing. The amount of security that should be incorporated in the system normally depends on the size and the nature of information being handled by the organization as well as on the devices being used (Dawoud 56).

The first and foremost way is to maintain a full understanding of that particular networks topology. This understanding is important as it creates an improvement to the system design whenever the need arise. These

improvements are important in optimization of the performance of that system. This is important especially where there is periodic assessment of the security controls and their performance (Hirani 39).

This research shall seek to come up with a way of securing the wireless network and enhance the security levels to satisfaction. The research shall propose devices that shall also aid the mobility for the wireless devices.

4. 0 LITERATURE REVIEW

Many scholars have come up with writings assessing the performance of wireless devices. They have come up with ways of maintaining the wireless networks as well as how to create the same. Maintaining a secure network should be a continuous activity that keeps going on. It should be assessed regularly in terms of performance and if there is need to upgrade or improve the technology that is being used (William 78). Keeping inventories of the equipments that are used in that wireless network is also a good way of ensuring performance. In addition, having back up for the transactions and the communications is also important to secure the system (Erica et al. 44). There should be a wide usage of inherent security features. An example of these features includes encryption methods that make it difficult for parties not intended to understand the process (Kerry 11). Features such as authentication can also be employed to fortify the security system. Firewalls and the other protecting means should not be left out. Another means is controlling the mobility of the wireless devices (Ghassan 34). Controlling here does not mean restriction but rather monitoring the mobility of the wireless gadget. Wireless devices are constantly in motion from one station to another. They are prone to misplacement and getting lost. Physical

monitoring and tracking is important to offer further protection to the wireless networks. It is quite obvious that physical controls that protect the stationery devices are much more efficient than the mobile ones (Joseph 16).

4. 0 PROBLEM STATEMENT

Wireless security is not as secure as the LAN network. This is because unlike LAN, wireless security does not require any physical connection. This makes it possible for a neighbour with the same default setting be able to connect to your network and malicious or accidentally use your bandwidth. Some might go as far as changing or reconfiguring your router to your oblivion (Almuhaideb 67). This is quite a risky for firms and organizations that are dealing with very sensitive information. Therefore there is a great need for seeking ways to enhance the performance of wireless devices.

5. 0 RESEARCH OBJECTIVE

The proposed research shall seek to achieve the following objectives:

a) The researcher shall also review the ways in which the wireless network has shortfalls and is lacking. Top in the list here shall be how to improve the network and especially means of having efficient and private networks.

b) Critically evaluating the performance of wireless devices against the stationery devices. From the evaluation the researcher shall try to find ways to harmonize the disparity.

c) The research shall also seek to identify the pitfalls that exist in the current structure of the wireless networks. After identifying these, the researcher shall seek to propose ways of securing the wireless networks.

d) Seek to find ways of securing wireless networks and improving the whole

wireless structure in general.

6. 0 RESEARCH METHODOLOGY

The researcher shall use different forms of methodologies. A summary of the methodology that the researcher shall employ is as follows:

The researcher shall carry out experiments on the performance of the wireless devices.

The researcher shall also review and reports and statistical data that seek to analyze the performance of wireless devices.

The researcher shall also try to engage the information technology experts in interviews on the ways of improving the security of wireless devices.

7. 0 LIMITATIONS

The intended study shall be limited a few factors which are beyond the researchers control. In terms of security the researcher shall be limited in determining the privacy of the network. It is not easy to know whether a person is using your network. The wireless connections lack physical connecting devices that can be traced to the person who has entered your network.

A signal fluctuation is another challenge posing against this research. Since this research shall depend on the transmission of signals. This can be affected by physical barriers such as walls. This can have an impact on the research finds and the researcher shall have to move from one place to another or acquire strong transmission devices.

Another limitation shall be brought about by the ever changing nature of information technology. The information technology keeps on changing and new devices are being invented at a very fast pace. This shall offer the

researcher a challenge as over and over again she shall be required to understand such changes that are taking place and affecting the IT sector.

8. 0 CONCLUSION

This research is mainly seeking to assess the ways of enhancing the level of performance of the wireless network. The research shall seek to evaluate the improvements of how to improve the wireless network.

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