IMPLEMENTATION OF WIRELESS LAN NETWORK AT PERBADANAN KEMAJUAN NEGERI MELAKA

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IMPLEMENTATION OF WIRELESS LAN NETWORK AT PERBADANAN KEMAJUAN NEGERI MELAKA

NURUL AZLIN BINTI C ABLLAH

This report is submitted in partial fulfillment of the requirements for the Bachelor of Computer Science (Computer Networking)

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2009

DECLARATION

I hereby declare that this project report entitled

IMPLEMENTATION OF WIRELESS LAN NETWORK AT PERBADANAN KEMAJUAN NEGERI MELAKA

Is written by one and my own effort and that no part has been plagiarized without citations.

STUDENT : _____ Date : 1/07/2009

(NURUL AZLIN BINTI C ABLLAH)

SUPERVISOR : _____ Date : 1/07/09

(DR SUHAIMI BIN BASRAH)

DEDICATION

To my beloved parents and all of person who support me to accomplish PSM project, I would like to thanks a lot. Then, especially to my Supervisor Dr Suhaimi Bin Basrah because teach me a lot to doing the project.

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ABSTRACT

Wireless technology has helped to simplify networking by enabling multiple computer users to simultaneously share resources in office business without additional or intrusive wiring. The project are proposed to implement wireless LAN network at Perbadanan Kemajuan Negeri Melaka (PKNM) . The implementation of the project is based on simulation technique using Opnet Modeler 9.1. The design was created is mapped to Opnet Modeler 9.1 to test the performance of the network and get the result to choose the best design. All the design is simulate based on researching and interviewing technique with the staff at PKNM. Perhaps, the suggestion of wireless design will help PKNM to improve their network there.

ABSTRAK

Rangkaian Komunikasi tanpa wayar adalah untuk computer memudahkan dalam rangkaian membahagikan sumber di pejabat tanpa memerlukan sebarang kabel. Projek ini telah memilih Perbadanan Kemajuan Negeri Melaka (PKNM) untuk mencadangkan rangkaian tanpa wayar (LAN) di sana. Projek ini menggunakan Perisian Opnet Modeler 9.1 untuk merekabentuk rangkaian. Rekabentuk rangkaian yang yang dibina dan memilih rangkaian yang paling bagus. Rekabentuk rangkaian adalah disimulasi berdasarkan penyelidikan dan temuramah dengan PKNM. Adalah diharapkan, rekabentuk rangkaian tanpa wayar yang di cadangkan ini akan dapat menolong PKNM untuk membaiki rangkaian di sana.

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INTRODUCTION

1.1 Project Background

The project will be work on for PSM is to analyze and implement wireless at Perbadanan Kemajuan Negeri Melaka. . In this chapter is about to state a objective, scope and collect more information to accomplish the PSM project. The project consists of to create new network design using wireless LAN for the place that merge with the existing network. The testing and implementation will cover either all around campus include simulation for data and performance. The current network that use in that place is wired network so the project can give more benefit to student and staff because can access internet easily. It is available to use wireless LAN because Perbadanan Kemajuan Negeri Melaka is not a big organization.

1.2 Problem Statement

The current network at PKNM only has wireless access at 9th floor. Only staff at this floor can use wireless. Another staff at another floor cannot use it. Wired network offers an environment where staffs are tied to their desk and cannot budge around to access the network.

Wireless networks can offer more convenient device and computers for all staffs. The target of the new wireless design is to ensure network environment at PKNM support mobility features and also will ensure overall services increase productivity.

1.3 Objective

1. Analyzing of existing network design. The analyzing is to know the environment of the existing network to merge with the new network design.

2. To design two wireless network at PKNM..

3. Analyze performance of the implementation wireless at PKNM.
   Simulation current and new network is to compare the result. This is the way to implement new network design.

4. To give better mobility for staff to use the network.

Scope

1. User target are for staff in PKNM. They will use new network as alternative to use the network.

2. Added new features and device to provide wireless access such as access point can locate at several places.

1.5 Project Significance

1. The implementation of wireless also will include in analyzing the network performance of the implementation of wireless LAN network at PKNM.

2. Staffs can access to network wirelessly.

Expected Output

1. The wireless LAN implementation can connect the network either inside or outside the room.
2. Analyze network performance of the designs.
3. Proposed the best network on simulation technique.

1.7 Conclusion

The wireless network is standardized with respect to protocol definitions. Analyze various type of parameter analysis such as check and compare latency means a time delay between the moment something is initiated, and the moment one of its effects begins or becomes detectable. Then packet loss occurs when one or more packets of data traveling across a computer fail to reach their destination. The analysis is include check the speed of the network and the cost by using wired and wireless LAN and the distance at which a particular through can be achieve.

CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

Literature review is the part of the Implementation of wireless LAN project that include the step to develop a part of the project. Literature review for the project include domain, Keyword that introduce about the project and do previous research as a reference. The project methodology use is Top Down Network Design. Project methodology is a formalized approach that applies systematic way of project development. All needed information can gather from many resource such as books, journal, internet and study from ongoing research. The implementation of the wireless LAN network is as a backup for the current network. Current network is still to be use.