

DEVELOPMENT OF PC BASED ROUTER USING QUAGGA

By

ROSNAIZA BT HASAN

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APPROVAL AND DECLARATION SHEET

This project report titled Development Of PC Based Router Using Quagga was prepared and submitted by Rosnaiza Bt Hasan (Matrix Number: 031080436) and has been found satisfactory in terms of scope, quality and presentation as partial fulfillment of the requirement for the Bachelor of Engineering (Communication Engineering) in Universiti Malaysia Perlis, UniMAP.

Checked and Approved by

(MR. SUHIZAZ SUDIN)
Project Supervisor

**School of Computer and Communication Engineering
Universiti Malaysia Perlis, UniMAP**

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MEMBANGUNKAN KOMPUTER PERSENDIRIAN KEPADA “ROUTER” MENGUNAKAN PERISIAN QUAGGA

ABSTRAK

Projek bertajuk “Development of PC Based Router using Quagga” adalah bertujuan untuk membina perisian untuk router. Projek ini mengkaji proses “routing” yang mana beroperasi menghantar informasi atau mesej dari satu sumber kepada satu destinasi melalui rangkaian dalaman. Metodologi bagi projek ini dibahagikan kepada beberapa fasa dan mengikut langkah demi langkah. Perkakasan yang diperlukan dalam membangunkan projek ini ialah beberapa buah komputer, dua switch dan dua network card. Komputer yang digunakan untuk menyiapkan projek ini harus mempunyai sistem pengoperasian Linux, dan Quagga. Hasil projek pada peringkat akhir ialah sebuah router yang boleh berfungsi menghantar informasi dari satu punca ke satu destinasi yang berbeza. Proses “routing” yang dibina akan dapat menghantar mesej dengan selamat dan berkesan.

ABSTRACT

Project entitled “Development of PC Based Router using Quagga” is aim to build a routing service that has high quality and be one of the routing solutions for the programmer. This project studied the routing process, which will move information from a source to a destination across an inter-network.

The methodologies of this project are dividing into phases and step by step. The hardware required in this project is computers, two switches, and two network cards. The software that required are Linux operating system, and Quagga; the routing software packages.

Finally, the product of this project is a router, which can move information from a source PC to a destination PC, in safe condition and can run efficiently.

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LIST OF ABBREVIATIONS

LAN	Local Area Network
WAN	Wide Area Network
TCP	Transmission Control Protocol
IP	Internet Protocol
IPv4	Internet Protocol version 4
IPv6	Internet Protocol version 6
OSI	Open System Interconnection
ISP	Internet Service Provider
DHCP	Dynamic Host Configuration Protocol
NIC	Network Interface Card
RIPd	Routing Information Protocol daemon
OSPFd	Open Shortest Path First daemon
BGPd	Border Gateway Protocol daemon
ZEBRA	Routing software packages
OS	Operating System
SNMP	Management Protocol
IGPs	Interior Gateway Protocols
MIB	Management Information Base
IS-IS	Intermediate system to system
VoIP	Voice over Internet Protocol