# UNIVERSITI TEKNOLOGI MARA

# SOFTWARE DEFINED NETWORKING BASED LOAD BALANCER

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# ABSTRACT

As the number of network applications, devices and technologies used were increasing rapidly over the past years, resource control and network management are becoming challenging issues in maintaining network performance. Load balancing is crucial in order to allocate massive workload across many nodes in the network. Software Defined Networking (SDN) is a promising platform to build load balancer as it enables fast application deployment and delivery, thus reducing IT costs through policy-enabled workflow automation. This paper focus on the design of a SDN based server load balancing application that will handle traffic load flowing into the system. The completed system is simulated on POX controller, an OpenFlow switch and three set of network topologies consisting the same number of hosts but different number of clients. Results show that round robin based load balancer yield better average response time and network bandwidth utilization, but shows^ tradeoff in the aspect of CPU utilization.

*Keywords*— Software Defined Networking, Load Balancing, Round Robin, Random, OpenFlow

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# TABLE OF CONTENTS


| | Page |
|---|---|
| **AUTHOR'S DECLARATION** | **ii** |
| **SUPERVISOR'S DECLARATION** | **iii** |
| **ABSTRACT** | **iv** |
| **ACKNOWLEDGEMENT** | **v** |
| **TABLE OF CONTENTS** | **vi** |
| **LIST OF FIGURES** | **ix** |
| **LIST OF TABLES** | **xi** |
| **LIST OF SYMBOLS** | **xiii** |
| **LIST OF ABBREVIATION/NOMENCLATURE** | **xiii** |
| **CHAPTER ONE : INTRODUCTION** | 1 |
| 1.1 Background of Study | 1 |
| 1.2 Problem Statement | 3 |
| 1.3 Significance of Study | 4 |
| 1.4 Objective | 4 |
| 1.5 Scope and Limitation of Study | 5 |
| 1.6 Thesis Organization | 6 |
| **CHAPTER TWO: LITERATURE REVIEW** | 7 |
| 2.1 Software Defined Networking Architecture | 7 |
| 2.1.1 Software Defined Networking Elements | 8 |
| 2.1.1.1 Separation of Control Plane | 9 |
| 2.1 1.2 Logical Centralization | 9 |
| 2.1 1.3 Programmability | 10 |
| 2.1 1.4 Northbound APIs | 11 |
| 2.1 1.5 Flow Entries | 11 |
| 2.2 Overview of OpenFlow | 12 |
| 2.3 OpenFlow Controllers | 14 |

2.4 Overview of SDN Based Load Balancer
2.5 Overview of Load Balancing Algorithm
2.5.1 Random Algorithm
2.5.2 Round Robin Algorithm
2.6 Result Comparison from Past Researches
2.7 Qualitative Parameters for Load Balancer
2.8 Existing Journal and Research Paper

**CHAPTER THREE: METHODOLOGY**

3.1 Introduction
3.2 System Components
3.2.1 VMware Workstation 11
3.2.2 POX Controller
3.2.3 Mininet
3.2.4 IPerf
3.2.5 HTTPerf
3.2.6 OpenWebLoad
3.3 Flowchart Of SDN Based Load Balancer's Design
3.4 Software Controller Set Up
3.5 Load Balancer Network Model
3.6 Load Balancer Network Topology Execution
3.7 SDN Based Load Balancing Module Execution
3.8 POX Module Programming
3.8.1 Random Based Load Balancing Application
3.8.2 Round Robin Based Load Balancer

**CHAPTER FOUR: RESULTS AND DISCUSSION**

4.1 Introduction
4.2 Simulation For Software Defined Networking Based
4.3 Result Of Network Parameters' Testing
4.3.1 Average Response Time
4.3.2 Bandwidth of Network
4.3.3 CPU Utilization