

CONTENTS

APPROVAL PAGE

LEMBAR PERNYATAAN ORISINALITAS

ABSTRACT iv

Contents v

List of Tables vii

List of Figures viii

DAFTAR SINGKATAN ix

I INTRODUCTION 1

1.1	Background	1
1.2	Problem Formulation	2
1.3	Objectives	2
1.4	Scope of Problem	2
1.5	Method of Research	2
1.6	Writing Systematics	3
1.7	Milestones	3

II BASIC CONCEPT 4

2.1	GNS3	4
2.2	Routing Overview	5
2.2.1	OSPF	5
2.3	Network Function Virtualization	7
2.3.1	Free Range Routing	7
2.3.2	BIRD Routing Daemon	9
2.4	Convergence Time	12
2.5	Quality of Service	13

III MODEL AND SYSTEM DESIGN 15

3.1	Simulation Setup	15
-----	----------------------------	----

3.2	Simulation Process	16
3.2.1	Convergence Time	17
3.2.2	QoS measurement	19
3.3	Topology	19
3.4	Installation and configuration	21
3.4.1	FRRouting	21
3.4.2	BIRD	24
3.4.3	Host	26
IV	RESULT AND ANALYSIS	27
4.1	Convergence Time	27
4.1.1	Convergence time of FRR in QEMU	27
4.1.2	Convergence Time of FRR and BIRD in VM	28
4.2	Packet Loss	31
4.3	Jitter	32
4.4	Throughput	32
4.5	Delay	33
4.6	Traffic Overhead	34
V	CONCLUSIONS AND SUGGESTIONS	35
5.1	Conclusions	35
5.2	Sugesstion	36
	Bibliography	37
	LAMPIRAN	1