
CONTENTS

APPROVAL	ii
SELF DECLARATION AGAINST PLAGIARISM	iii
ABSTRACT	iv
ABSTRAK	v
ACKNOWLEDGMENTS	vi
PREFACE	vii
CONTENTS	viii
LIST OF TABLES	x
LIST OF FIGURES	xi
LIST OF TERMS	xii
1 INTRODUCTION	1
1.1 Background of the Problem	1
1.2 Research purposes	3
1.3 Statement of the Problem	3
1.4 State of The Art	3
1.5 Hypotheses	5
1.6 Research Method	6
1.7 Problem Limitation	6
1.8 Contribution	6
2 LITERATURE REVIEW	7
2.1 Named Data Networking (NDN)	7
2.2 Forwarding mechanism on NDN	10
2.3 Comparison of Forwarding on IP and NDN	11
2.3.1 Forwarding on IP	11
2.3.2 Forwarding on NDN	12
2.4 Broadcast-Based Self-Learning Forwarding	13
2.5 VANET-NDN	16
2.5.1 VANET Properties	16
2.5.2 VANET on IP Network Architecture and NDN	18

2.6	Network Simulator	19
2.6.1	Network Simulator 3	19
2.6.2	NDN Simulator	19
2.6.3	NDN4IVC Framework Simulator	19
2.7	Test Parameters	20
2.7.1	Cache Hit Ratio	20
2.7.2	Round-Trip Time (RTT)	20
2.7.3	Throughput	20
3	RESEARCH METHODOLOGY	21
3.1	Research Methodology	21
3.2	Broadcast-Based Self-forwarding Modification System Design	22
3.3	Test Scenario	27
3.4	Simulation Device	27
3.5	Simulation Design	28
4	RESULTS AND ANALYSIS	30
4.1	Results of The First Scenario	30
4.1.1	Simulation Results of Changes in the Number of Nodes to the Cache Hit Ratio	30
4.1.2	Simulation results of changes in the number of nodes to the value of Throughput	31
4.1.3	Simulation results of changes in the number of nodes to the value of RTT	32
4.2	Results of The Second Scenario	33
4.2.1	Simulation Results of Changes the acceleration value to the Cache Hit Ratio	33
4.2.2	Simulation results of changes in the number of nodes to the value of Throughput	34
4.2.3	Simulation results of changes in the number of nodes to the value of RTT	35
5	CONCLUSION AND RECOMMENDATIONS	37
5.1	Conclusions	37
5.2	Recommendations	38
	BIBLIOGRAPHY	39
	Appendices	40