DAFTAR ISI

ABSTRAK i

ABSTRACT ii

KATA PENGANTAR iii

DAFTAR ISI v

DAFTAR GAMBAR viii

DAFTAR TABEL ix

DAFTAR LAMPIRAN xi

BAB I PENDAHULUAN 1

I.1 Latar Belakang Masalah 1

I.2 Perumusan Masalah 2

I.3 Maksud dan Tujuan Penelitian 2

I.4 Batasan Masalah 2

I.5 Metodologi Penelitian 3

I.6 Sistematika Penulisan 5

BAB II TINJAUAN PUSTAKA 7

II.1 Debugging 7

II.2 Macam-Macam Format Debugging 7

II.3 Instrumentation 8

II.4 Metode Binary Instrumentation 10

II.5 ELF 10

II.6 Self-Modifying Code 11

II.7 Anti Debugging 16

II.8 DynamoRIO 17
II.9 Profiling 18
II.10 Tracing 19
II.11 Binary Analysis 19
II.12 Program Lifecycle Phase 20
II.12.1 Edit Time 20
II.12.2 Compile Time 20
II.12.3 Link Time 20
II.12.4 Load Time 21
II.12.5 Run Time 21
II.13 Binary Translation 21
II.14 Intermediate Representation 21
BAB III ANALISIS SELF-MODIFYING CODE DAN PERANCANGAN DYNAMIC BINARY INSTRUMENTATION 23
III.1 Analisis Sistem 23
III.1.1 Analisis Masalah 23
III.1.2 Analisis Biner Program 23
III.1.3 Analisis Self-Modifying 24
III.1.4 Analisis Binary Translation 28
III.1.5 Analisis Sintaksis 30
III.1.6 Spesifikasi Intermediate Representation 41
III.1.7 Analisis Kebutuhan Non Fungsional 50
III.1.7.1. Analisis Perangkat Lunak 51
III.1.7.2. Analisis Perangkat Keras 51
III.1.8 Analisis Dynamic Binary Instrumentation 51

III.2 Perancangan Dynamic Binary Instrumentation 55
BAB IV IMPLEMENTASI DAN PENGUJIAN 63
IV.1 Implementasi Sistem 63
IV.1.1. Lingkungan Implementasi Sistem 63
IV.1.2. Implementasi Pembangunan Dynamic Binary Instrumentation 63
IV.1.3. Implementasi Pembuatan Random Test Case Generation 65
IV.2 Pengujian Sistem 65
BAB V KESIMPULAN DAN SARAN 75
DAFTAR PUSTAKA 77