Table of Contents

1 Calling Conventions 1

1.1 Introduction 1
1.2 Processor Background 1
1.3 Calling Mechanism 2
1.4 Register Usage 2
1.5 Parameter Passing 3
1.6 User-Provided Routines 3

2 Memory Model 5

2.1 Introduction 5
2.2 Flat Memory Model 5

3 Interrupt Processing 7

3.1 Introduction 7
3.2 Vectoring of Interrupt Handler 7
3.3 Interrupt Stack Frame 9
3.4 External Interrupts and Traps 9
3.5 Interrupt Levels 9
3.6 Disabling of Interrupts by RTEMS 10

4 Default Fatal Error Processing 11

4.1 Introduction 11
4.2 Default Fatal Error Handler Operations 11

5 Board Support Packages 13

5.1 Introduction 13
5.2 System Reset 13
5.3 Processor Initialization 13

6 Processor Dependent Information Table 15

6.1 Introduction 15
6.2 CPU Dependent Information Table 15

7 Memory Requirements 19

7.1 Introduction 19
7.2 Data Space Requirements 19
7.3 Minimum and Maximum Code Space Requirements 19
7.4 RTEMS Code Space Worksheet 20
7.5 RTEMS RAM Workspace Worksheet 20

8 Timing Specification 23

8.1 Introduction 23
8.2 Philosophy 23
8.2.1 Determinancy 24
8.2.2 Interrupt Latency 25
8.2.3 Context Switch Time 26
8.2.4 Directive Times 26
8.3 Methodology 27
8.3.1 Software Platform 27
8.3.2 Hardware Platform 27
8.3.3 What is measured? 27
8.3.4 What is not measured? 28
8.3.5 Terminology 28

9 Timing Data 31

9.1 Introduction 31
9.2 Hardware Platform 31
9.3 Interrupt Latency 31
9.4 Context Switch 32
9.5 Directive Times 32