1

Introduction

This document describes the **RTEMS Development Environment**. Discussions are provided for the following topics:

- *the directory structure used by **RTEMS**,*
- *usage of the **GNU** Make utility within the **RTEMS Development Environment**,*
- *sample applications, and*
- *the **RTEMS** specific utilities.*

RTEMS was designed as a reusable software component. Highly reusable software such as **RTEMS** is typically distributed in the form of source code without providing any support tools. **RTEMS** is the foundation for a complex family of facilities including board support packages, device drivers, and support libraries. The **RTEMS Development Environment** is not a CASE tool. It is a collection of tools designed to reduce the complexity of using and enhancing the **RTEMS** family. Tools are provided which aid in the management of the development, maintenance, and usage of **RTEMS**, its run-time support facilities, and applications which utilize the executive.

A key component of the **RTEMS** development environment is the **GNU** family of free tools. This is robust set of development and POSIX compatible tools for which source code is freely available. The primary compilers, assemblers, linkers, and make utility used by the **RTEMS** development team are the **GNU** tools. They are highly portable supporting a wide variety of host computers and, in the case of the development tools, a wide variety of target processors.

It is recommended that the **RTEMS** developer become familiar with the **RTEMS Development Environment** before proceeding with any modifications to the executive source tree. The source code for the executive is very modular and source code is divided amongst directories based upon functionality as well as dependencies on CPU and target board. This organization is aimed at isolating and minimizing non-portable code. This has the immediate result that adding support for a new CPU or target board requires very little "wandering" around the source tree.