

BSP Development Training Course

Jumpstart productivity

Green Hills Software's Real-Time Operating Systems (RTOS) and embedded software development tools offer powerful capabilities to produce totally reliable, absolutely secure, and maximum performance devices—in the least time and at the lowest cost. The specialized training courses lead by Green Hills Software consultants will enable you to both jumpstart productivity and learn how to take full advantage of the power these tools provide.

BSP training overview

The INTEGRITY RTOS was developed from the ground up to be secure and reliable. To provide a fully memory-protected system, INTEGRITY takes full advantage of a processor's MMU or MPU. Attendees of the BSP (Board Support Package) development training course will learn to configure a board and develop device drivers in order to fully leverage this advanced technology.

Individual course topics include:

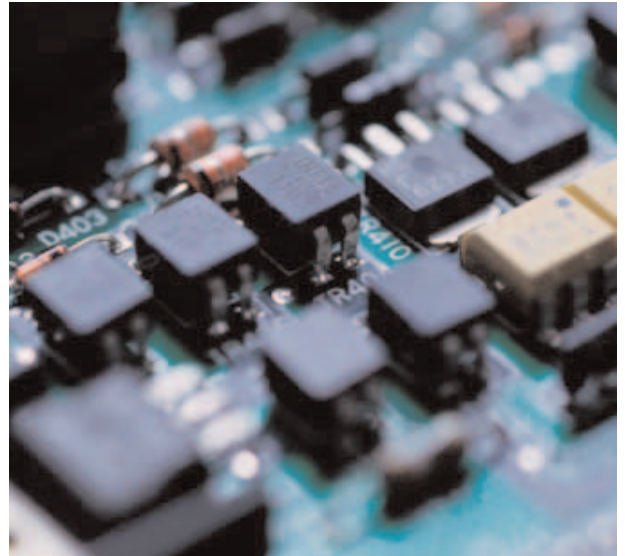
- ▲ BSP Overview
- ▲ Creating the Necessary Directories and Files
- ▲ Connecting to Hardware with MULTI
- ▲ Configuring Memory
- ▲ Interrupt Control and Management
- ▲ Configuring Clocks and Timers
- ▲ Creating and Installing Device Drivers
- ▲ Booting from Flash
- ▲ Tuning the kernel and BSP

Because this is an advanced course, attendees must meet at least one of the following requirements:

- ▲ working experience with of MULTI 4.x and INTEGRITY
- ▲ completed the MULTI 4.x and INTEGRITY API class

The framework for a complete BSP

This four-day course includes hands-on exercises for each lesson. Students will be exposed to the complete process—from bringing up a new/untested board to booting from an INTEGRITY application burned into flash.



In Green Hills Software's BSP development course, students will be learn the framework of a BSP which they can then apply to the requirements of their own specific hardware.

Starting with an overview of INTEGRITY's startup sequence, the course then explores each step of the process in detail. Students will be provided with a BSP template as well as sample hardware. Using these tools, students will construct individual BSP components. By the end of the course, they will have assembled a complete working BSP.

While BSPs can be different for specific processors and peripherals, the course aims to educate students on the basic framework of BSP construction. Students will be able to extend their understanding of this framework to their own custom boards. Students will be shown which sections of the BSP Green Hills provides and where customizations are required for their specific boards.

Individual course lessons will cover:

- ▲ How to reserve memory for device drivers and when memory is available for kernel and application code
- ▲ How INTEGRITY handles interrupts with minimum latency, and how to write device drivers to take advantage of this feature
- ▲ How to connect and configure Green Hills' hardware probes for a new board
- ▲ How to add timers and clocks to an INTEGRITY system



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