

## FAST BOOT OVERVIEW

Fast Boot is an alternative boot loader firmware image that can be programmed directly into a range of Concurrent Technologies single board computers (SBCs) supporting Intel® processors.

Fast Boot can satisfy the more demanding boot time requirement of certain types of embedded systems and can take the board from power-on through to starting the operating system boot in approximately 3 seconds.

The Concurrent Technologies Fast Boot Software Package enables the development of a customizable, optimized fast boot loader. The package has been designed to produce a self-contained firmware image that can be programmed as an alternative to the general purpose UEFI BIOS normally supplied with the SBC.

## HIGHLIGHTS

### Fast Boot Features:

- Fast Boot Time, approximately 3 seconds
- Boot direct to and load a Linux kernel from onboard ROM
- Flexible boot loader payload options:
  - SeaBIOS
  - GRUB2
  - FILO
  - iPXE
  - Custom ELF32 format module

### The Fast Boot Software Package includes:

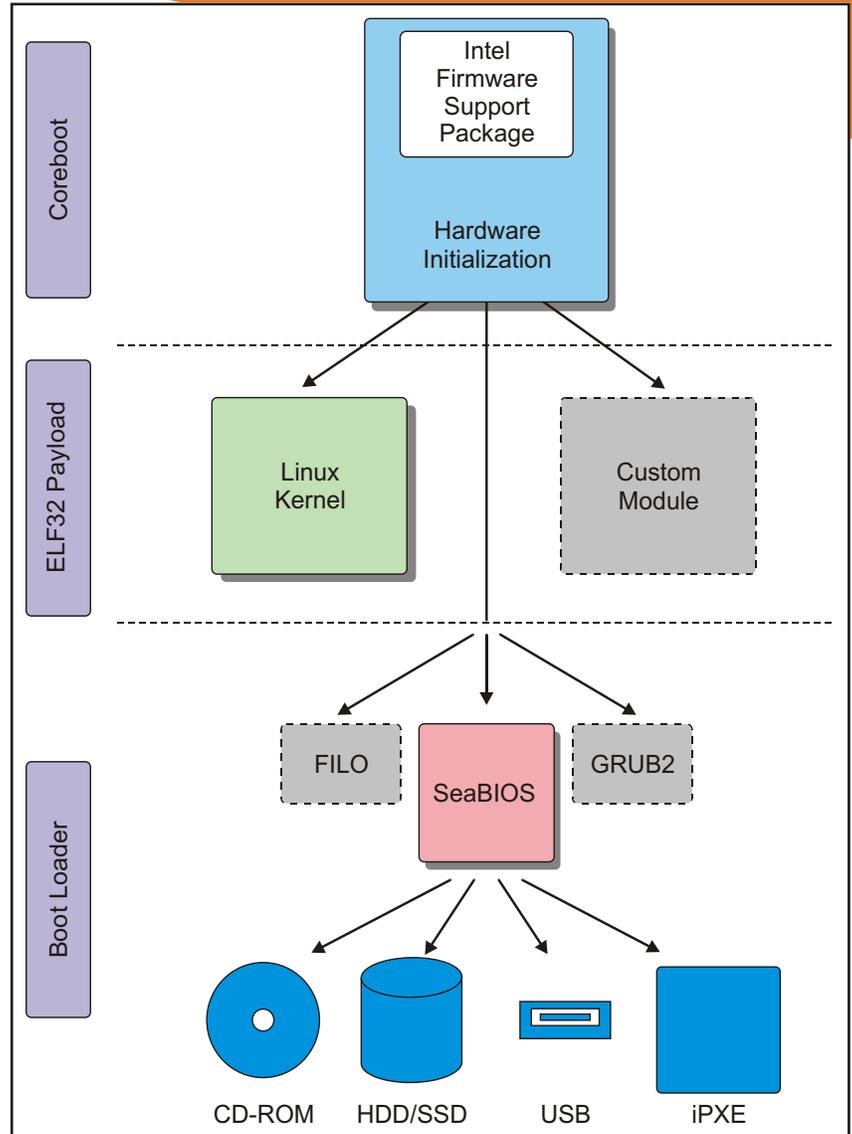
- Prebuilt minimal Linux kernel image using the Yocto Project suitable for programming into the SBC's SPI ROM
- Prebuilt SeaBIOS and iPXE payloads
- Programming tools for updating or replacing the boot loader payload
- Configuration tools and examples

## FAST BOOT SPECIFICS

Referring to the block diagram, Fast Boot as an optimized boot loader is designed for speed and is based on two elements: Coreboot, an Open Source boot loader module; and the Intel® Firmware Support Package (FSP), a binary hardware initialization module specifically designed for creating fast boot loader firmware.

The Coreboot module and the FSP module perform hardware initialization of the board's processor and chipset, and then provide basic bootstrap capabilities via an ELF32 module loader, which can load a minimal Linux kernel image directly from ROM (using the free space remaining in the SBC's on-board firmware EPROM).

Additionally, to boot an operating system from a hard disk, CD-ROM or USB mass-storage device, a boot loader payload is required such as SeaBIOS, FILO or GRUB2; or for network booting, SeaBIOS plus iPXE can be used.



Note: "Boot Loader" is a generic term used for ROM resident firmware responsible for initializing hardware and starting the process of loading an operating system from one or more boot devices.

## FAST BOOT SOFTWARE PACKAGE

The Concurrent Technologies Fast Boot Software Package is provided as a software development kit enabling the full customization and production of a fast boot loader firmware image. The kit contains all of the necessary programming and configuration tools, with examples, including a pre-built Linux Kernel example suitable for programming the target board's firmware EPROM, along with pre-built SeaBIOS and iPXE payloads.

For further information please contact your local sales office.

## ORDERING INFORMATION

SW FST/nnn Fast Boot Software Package (where nnn equals the sales code for the target single board computer)