

Built-In Test (BIT) Firmware and Software



Concurrent Technologies Built-In Test (BIT) software provides a range of self-test diagnostics which allows extensive live in-system testing. It is available for a range of Concurrent Technologies single board computers spanning various system architectures, e.g. VPX, VME, VXS and CompactPCI®. The BIT software is optional and is available in two parts: the first part is implemented by on-board firmware and provides

standalone diagnostics; the second part is an Operating System (OS) specific package (e.g. Linux) which provides run-time diagnostics that can execute alongside the application. The combination of these two parts can provide 95%, or greater, test coverage for each board. Contact Concurrent Technologies for the latest range of boards and Operating Systems supported.

HIGHLIGHTS

Concurrent Technologies Built-In Test (BIT)

- Available for a range of Concurrent Technologies boards utilizing Intel® processors:
 - commercial and industrial
 - ruggedized air-cooled
 - ruggedized conduction-cooled boards
- Range of BIT support:
 - Power-on BIT (PBIT)
 - Initiated BIT (IBIT)
 - Continuous BIT (CBIT).
- Test coverage 95% or greater (PBIT+CBIT+IBIT):
 - comprehensive fault codes
- Test suite functions are board dependent

Power-on BIT

- Integrated into BIOS POST
- Results stored in EEPROM and available to OS
- Available with the board's BIT firmware build option

Stand-alone Initiated BIT Console

- No Operating System (OS) required
- Operates over serial console
- Available with the board's BIT firmware build option:
 - suitable for any OS

Continuous BIT

- Specific to OS
- Stored results available to applications
- CPU remains interruptible and pre-emptable
- Does not disconnect external interfaces
- Remote operation via SSL network connection
- Optionally available for the specified Operating System:
 - part number SW BIT/nnn
 - board's BIT firmware must be pre-installed

Operating System Initiated BIT Console

- Specific to Operating System
- Interactive test execution
- Remote operation via SSL network connection
- Optionally available for the specified Operating System:
 - part number SW BIT/nnn

Operating Systems Supported

- Linux and VxWorks (board dependent)
- Contact your local sales office for the latest Operating System support

Boards Supported

- Concurrent Technologies provide a range of ruggedized and commercial single board computers are available, supporting Intel® Core™ i7, Intel® Core™ 2 Duo and Intel® Atom™ processors

Concurrent Technologies Built-In Test (BIT)

- Built-In Test (BIT) available for a range of Concurrent Technologies boards:
 - commercial and industrial boards
 - ruggedized air-cooled boards
 - ruggedized conduction-cooled boards
- range of BIT support:
 - Power-on BIT (PBIT)
 - Initiated BIT (IBIT)
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- test coverage 95% or greater (PBIT+CBIT+IBIT)
- comprehensive fault codes
- test suite functions are board dependent
- BIT available as firmware and as software:
 - see Figure 1 and Figure 2 opposite

BOARD FIRMWARE BIT (build option)

Power-on BIT (PBIT)

- onboard firmware in Flash memory
- integrated into BIOS POST
- selectable test duration/coverage
- results stored in EEPROM, available to Operating System
- board's BIT firmware must be installed at the factory

Stand-alone Initiated BIT Console (IBIT)

- onboard firmware in Flash memory
- Operating System not required
- operates via serial console
- interactive test execution:
 - extra tests available
 - supports test parameters
 - supports complex looped execution
- utility functions for direct hardware access
- board's BIT firmware must be installed at the factory

OPTIONAL SOFTWARE BIT (SW BIT/nnn)

Continuous BIT (CBIT)

- specific to Operating System (OS)
- integrated with PBIT for low-level tests
- fully customizable test selections
- stored results available to applications
- CPU remains interruptible and pre-emptable
- does not disconnect external interfaces
- remote operation via SSL network connection
- optionally available for the specified Operating System (SW BIT/nnn):
 - board's BIT firmware must be pre-installed

OS Initiated BIT Console (OS IBIT)

- specific to Operating System
- interactive test execution:
 - supports test parameters
 - supports looped execution
- remote operation via SSL network connection
- optionally available for the specified Operating System (SW BIT/nnn):
 - board's BIT firmware must be pre-installed

Operating Systems Supported

- Linux and VxWorks (board dependent)
- contact your local sales office for the latest Operating Systems support

Concurrent Technologies Boards Supported

- a range of Concurrent Technologies ruggedized and commercial single board computers, supporting Intel® Core™ i7, Intel® Core™ 2 Duo and Intel® Atom™ processors
- contact your local sales office for the latest range of boards supported

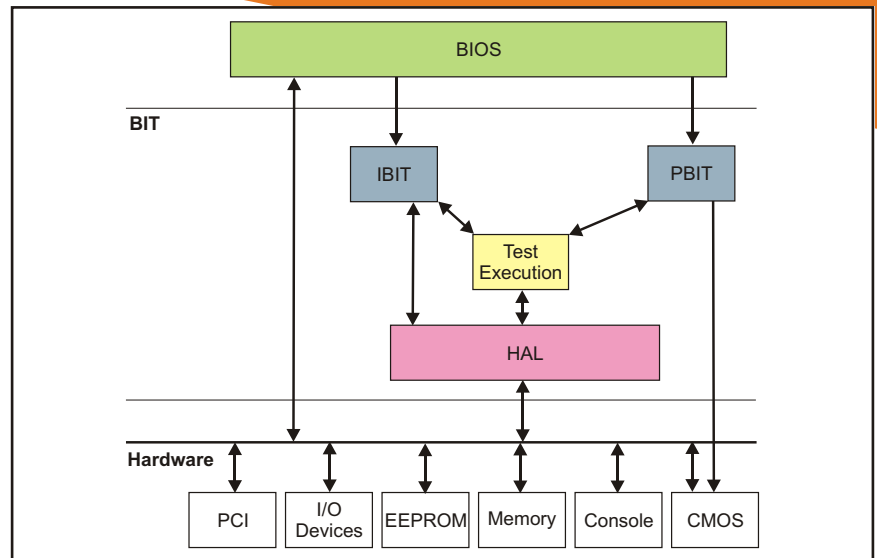


Figure 1: PBIT and Stand-alone IBIT firmware

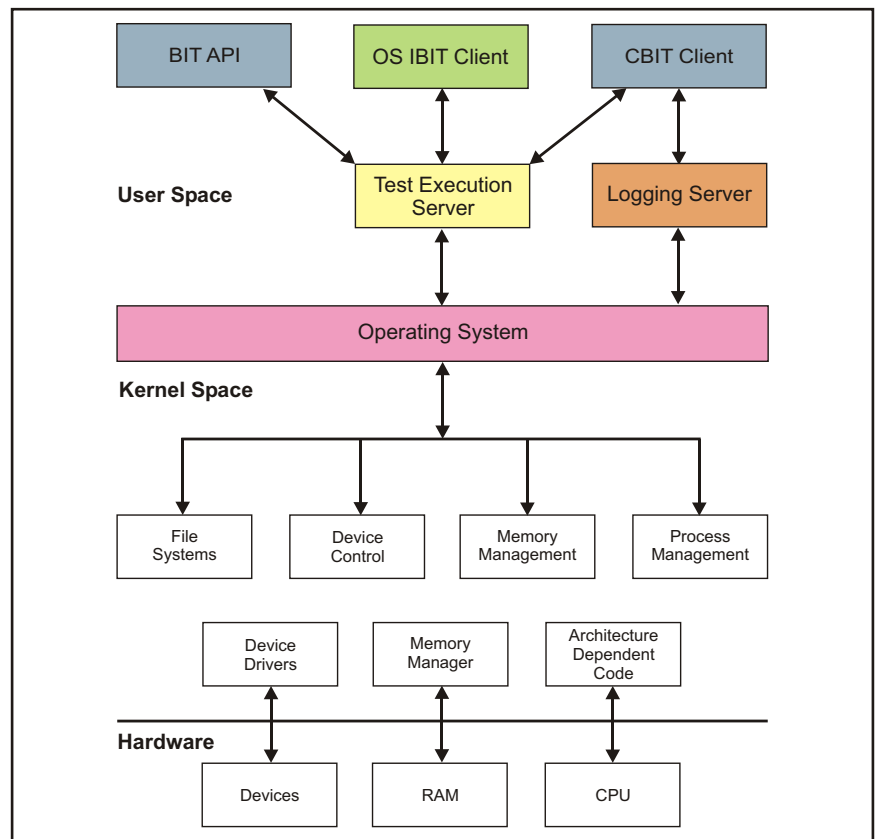


Figure 2: CBIT and OS IBIT software

ORDERING INFORMATION

Order Number Product Description (Software)

SW BIT/nnn-mo Continuous BIT (CBIT) software including OS Initiated BIT (IBIT) software
 Where nnn = Concurrent Technologies single board computer, m = media code and o = operating system supported

Note: the BIT Firmware is ordered as part of the SBC build option and consists of the Power-on BIT (PBIT) and Stand-alone Initiated BIT Console (IBIT) firmware

For all supported options please contact your local sales office