The Code Composer Studio™ integrated development environment (IDE) supports Texas Instruments broad embedded portfolio.

Getting Started
The first screen seen when running Code Composer Studio is the “Getting Started” view. This tool provides users with fast access to many of the common tasks they would want to perform when first starting to use a new environment such as creating a new project, browsing examples and visiting the new “App Center.” There are links to the support forums, YouTube videos, training materials and the wiki. Prominently displayed in the center of the screen is a video that walks customers through the basics of using Code Composer Studio. It also gives users the option of switching to “Simple Mode.” Simple mode strips down the Code Composer Studio user interface to a more basic set of functionality with a reduced number of buttons, menu items and views open.

App Center
Users need much more than just an IDE to begin working on an embedded design. The purpose of the “App Center” is to provide access to additional software that is available. Packages such as MSP430Ware™, C2000™ controlSUITE™ and TivaWare™ are essential to starting development and are all available via the App Center. Other packages like TI-RTOS, GCC for MSP430™, Linux™ Development Tools and GUI Composer are also available. To prevent customers from being overwhelmed by content, the App Center will display only the packages that are relevant to the device platforms that were selected during the Code Composer Studio installation.

Once users have installed a package, the “Resource Explorer” lets them browse through all the examples and documentation that were provided. The idea is that users can quickly locate the content they need, install it and start using it, all from within Code Composer Studio.

Compiler and Advisor Tools
At the heart of every development environment is the compiler. Code Composer Studio includes a highly optimized C compiler for each processor platform. Additionally, for MSP430- and ARM®-based devices, a GCC distribution is provided for those who prefer to use GCC. In order to help the compiler to do the best job possible for your device, Code Composer Studio includes intelligent tools that provide you with advice on how to best optimize your application for performance, code size and power consumption.

Trace
Many high-performance TI processors include the ability to perform processor trace. Trace provides a detailed, historical account of code execution, timing and data accesses. This advanced capability is extremely useful in detecting complex, intermittent bugs, as well as profiling to help fine-tune code performance. Trace data can be captured to dedicated on-chip memory (ETB) or exported over pins to be captured by a trace receiver.

The majority of TI devices with an ARM Cortex®-M core include the “Instrumentation Trace Module” (ITM). ITM is an application-driven trace source that provides a high-level software view of what is happening on the device. ITM enables features such as: Statistical profiling, variable tracing and interrupt profiling.
Linux Development

Code Composer Studio supports both Linux kernel and application-level development. The kernel can be debugged via JTAG, or GDB can be used for application development. By installing the Linux development tools package via the App Center, users can also get access to additional functionality such as the Linux Trace Tools (LTTng), which provide visibility into what is happening within the system.

TI-RTOS

TI-RTOS is a scalable real-time operating system (RTOS) for TI devices. It scales from a real-time multitasking kernel to a complete RTOS solution including additional middleware components and device drivers. By providing essential system software components pre-tested and pre-integrated, TI-RTOS enables developers to focus on differentiating their application.

When used within Code Composer Studio, users can use the “RTOS Object View” to inspect the state of the scheduler, threads and objects in the system. The RTOS Analyzer graphs thread execution and displays task and CPU load.

For additional information please visit www.ti.com/ccs.
IMPORTANT NOTICE

Texas Instruments Incorporated and its subsidiaries (TI) reserve the right to make corrections, enhancements, improvements and other changes to its semiconductor products and services per JESD46, latest issue, and to discontinue any product or service per JESD48, latest issue. Buyers should obtain the latest relevant information before placing orders and should verify that such information is current and complete. All semiconductor products (also referred to herein as “components”) are sold subject to TI’s terms and conditions of sale supplied at the time of order acknowledgment.

TI warrants performance of its components to the specifications applicable at the time of sale, in accordance with the warranty in TI’s terms and conditions of sale of semiconductor products. Testing and other quality control techniques are used to the extent TI deems necessary to support this warranty. Except where mandated by applicable law, testing of all parameters of each component is not necessarily performed.

TI assumes no liability for applications assistance or the design of Buyers’ products. Buyers are responsible for their products and applications using TI components. To minimize the risks associated with Buyers’ products and applications, Buyers should provide adequate design and operating safeguards.

TI does not warrant or represent that any license, either express or implied, is granted under any patent right, copyright, mask work right, or other intellectual property right relating to any combination, machine, or process in which TI components or services are used. Information published by TI regarding third-party products or services does not constitute a license to use such products or services or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property of the third party, or a license from TI under the patents or other intellectual property of TI.

Reproduction of significant portions of TI information in TI data books or data sheets is permissible only if reproduction is without alteration and is accompanied by all associated warranties, conditions, limitations, and notices. TI is not responsible or liable for such altered documentation. Information of third parties may be subject to additional restrictions.

Resale of TI components or services with statements different from or beyond the parameters stated by TI for that component or service voids all express and any implied warranties for the associated TI component or service and is an unfair and deceptive business practice. TI is not responsible or liable for any such statements.

Buyer acknowledges and agrees that it is solely responsible for compliance with all legal, regulatory and safety-related requirements concerning its products, and any use of TI components in its applications, notwithstanding any applications-related information or support that may be provided by TI. Buyer represents and agrees that it has all the necessary expertise to create and implement safeguards which anticipate dangerous consequences of failures, monitor failures and their consequences, lessen the likelihood of failures that might cause harm and take appropriate remedial actions. Buyer will fully indemnify TI and its representatives against any damages arising out of the use of any TI components in safety-critical applications.

In some cases, TI components may be promoted specifically to facilitate safety-related applications. With such components, TI’s goal is to help enable customers to design and create their own end-product solutions that meet applicable functional safety standards and requirements. Nonetheless, such components are subject to these terms.

No TI components are authorized for use in FDA Class III (or similar life-critical medical equipment) unless authorized officers of the parties have executed a special agreement specifically governing such use.

Only those TI components which TI has specifically designated as military grade or “enhanced plastic” are designed and intended for use in military/aerospace applications or environments. Buyer acknowledges and agrees that any military or aerospace use of TI components which have not been so designated is solely at the Buyer’s risk, and that Buyer is solely responsible for compliance with all legal and regulatory requirements in connection with such use.

TI has specifically designated certain components as meeting ISO/TS16949 requirements, mainly for automotive use. In any case of use of non-designated products, TI will not be responsible for any failure to meet ISO/TS16949.

Products

Audio www.ti.com/audio
Amplifiers amplifier.ti.com
Data Converters dataconverter.ti.com
DLP® Products www.dlp.com
DSP dsp.ti.com
Clocks and Timers www.ti.com/clocks
Interface interface.ti.com
Logic logic.ti.com
Power Mgmt power.ti.com
Microcontrollers microcontroller.ti.com
RFID www.ti-rfid.com
OMAP Applications Processors www.ti.com/omap
Wireless Connectivity www.ti.com/wirelessconnectivity

Applications

Automotive and Transportation www.ti.com/automotive
Communications and Telecom www.ti.com/communications
Computers and Peripherals www.ti.com/computers
Consumer Electronics www.ti.com/consumer-apps
Energy and Lighting www.ti.com/energy
Industrial www.ti.com/industrial
Medical www.ti.com/medical
Security www.ti.com/security
Space, Avionics and Defense www.ti.com/space-avionics-defense
Video and Imaging www.ti.com/video

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265
Copyright © 2014, Texas Instruments Incorporated