Technical Article

Good News ARM Developers: MSP432 Is Now Fully CMSIS Compliant!

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Hey ARM Developers; now you can quickly develop more portable, re-usable and compiler-independent code. **MSP432™ microcontroller (MCU) is now** fully CMSIS compliant**!**

The MSP432 MCU software ecosystem will be updated based on the CMSIS-Core. Go to www.ti.com/msp432cmsis to learn how this change impacts you.

MSP432 MCU Software Adopting CMSIS-Core

The Cortex Microcontroller Software Interface Standard (CMSIS) is a common hardware abstraction layer for the Cortex-M processor series and defines generic tool interfaces. The CMSIS enables consistent device support and simple software interfaces to the processor and the peripherals, simplifying software re-use, reducing the learning curve for microcontroller developers and reducing the time to market for new devices. The CMSIS is intended to enable the combination of software components from multiple middleware vendors. There are several components within the CMSIS specifications, out of which many are currently supported by MSP432 microcontroller software and tools infrastructure. Learn more on the CMSIS components go here.

The benefits of the CMSIS-Core and CMSIS in general include:

- Overall CMSIS reduces the learning curve, development costs, and time-to-market. Developers can write software quicker through a variety of easy-to-use standardized software interfaces.
- Consistent software interfaces improve the software portability and re-usability. Generic software libraries and interfaces provide consistent software framework.
- Provides a compiler independent layer that allows using different compilers. CMSIS is supported by all mainstream compilers (ARMCC, IAR and GNU).
- The CMSIS component specific to this MSP432 MCU software update is the CMSIS-Core, which provides the API for the Cortex-M processor core and peripherals. It provides at standardized interface for Cortex-M4F CPU of the MSP432 microcontroller including the SIMD intrinsic functions for Cortex-M4 SIMD instructions. CMSIS-CORE implements the basic run-time system for a Cortex-M device and gives the user access to the processor core and the device peripherals.

Release Schedule

The MSP432 MCU v3.10.00 beta release featuring MSP432 MCU with CMSIS-Core change will be available in November 2015, enabling early MSP432 microcontroller adopters to start converting software to the new MSP432 MCU CMSIS software.

In March 216, the official MSPWare v3.20.00 will merge the official release branch MSPWare v2.40.00 with the MSPWare v3.10.00 beta, fully adopting the MSP432 MCU CMSIS-Core change. At this point, all MSP432 MCU software needs to migrate over to MSP432 MCU CMSIS solution for final production.

The beta release in November 2015 provides MSP432 MCU software developers a smooth transition, and timely schedule to update their application software. Minimal changes between this v3.10.00 beta version and the official release MSPWare v3.20.00 are to be expected to address new bug fixes, feature enhancements and new software library additions. Learn how this change impacts you here.

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