

# Target Support Package TC2 Jumpstart Service

## Service Overview

Target Support Package™ TC2 Jumpstart Service is a four-day engagement that provides a systematic and rapid introduction to the tools and processes required to integrate MATLAB®, Simulink®, and Stateflow® for Model-Based design with Texas Instruments' eXpressDSP™ software for use with the TI C2000™ DSP platform. It is intended for embedded system engineers who work with Texas Instruments DSP hardware for developing real-world control and signal processing applications. By the end of the engagement, you will have learned to design, develop, and validate control algorithms or signal and image processing algorithms from concept to hardware-specific code through modeling, automatic code generation, prototyping, and embedded systems deployment.

The consultants will provide sample models, code, and supporting files.

## Service Topics

### Using the target for the TI C2000

- Setting up models for code generation
- Working with the target configuration blocks
- Defining memory maps and using available flash memory with the flash-burner plug-in
- Profiling and optimizing the generated code

### Using Embedded IDE Link CC for tool automation

- Overview of the single-step build-and-download processes using Embedded IDE Link™ CC (for TI's Code Composer Studio™)
- Scripting of Code Composer Studio operations
- Use of RTDX for host-target communication

### Using device drivers and interrupts

- Configuring peripheral devices, including ePWM, eCAN, eQEP, SCI, and I2C
- Building custom device drivers using the legacy code integration features
- Modeling asynchronous task scheduling using hardware interrupts and tasks for bareboard and DSP/BIOS based operation when applicable

### Porting floating-point algorithms to fixed-point

- Fixed-point modeling using Simulink
- Use of the IQMath Libraries

### Using custom libraries

- Using the Digital Motor Control Library for PMSM motor control
- Creating and reusing custom libraries using Target Function Library (TFL) replacement functions

The service will use the appropriate DSK or EVM for the supported target hardware chosen by the customer, when possible, or from the following options:

- TMS320F28335
- TMS320F2808
- TMS320F2812

On the last day of the engagement, the consultant will work on a representative example from the customer's application with individual team members. This approach allows participants to make optimal use of Model-Based Design by learning best practices from the consultant.

### Service Details

**Prerequisites:** Background in control and signal processing on embedded targets required, basic knowledge of C and MATLAB and Simulink fundamentals recommended

**Required equipment and software:** A laptop computer, with the appropriate software installed, for each attendee

**Duration:** Four days

**Location:** Onsite or at a MathWorks training facility

**Maximum number of attendees:** Five

### Ordering Options

You can order Target Support Package TC2 Jumpstart Service when you purchase the software or at a later date. Contact your MathWorks sales representative for details.

#### Learn More

Consulting Services  
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