STSW-STM32095

STM32CubeMX Eclipse plug-in for STM32 configuration and initialization C code generation

Data brief

Features

- Intuitive STM32 microcontroller selection
- Microcontroller graphical configuration:
  - Pinout with automatic conflict resolution
  - Clock tree with dynamic validation of configuration
  - Peripherals and middleware functional modes and initialization with dynamic validation of parameter constraints
  - Power sequence with estimate of consumption results
- C code project generation covering STM32 microcontroller initialization compliant with IAR™, Keil® and GCC compilers
- Available standalone or through Eclipse plug-in

Description

STM32CubeMX is part of STMicroelectronics STMCube™ original initiative to ease developers life by reducing development efforts, time and cost. STM32Cube covers STM32 portfolio.

STM32Cube includes the STM32CubeMX which is a graphical software configuration tool that allows generating C initialization code, using graphical wizards.

It also embeds a comprehensive software platform, delivered per series (such as STM32CubeF4 for STM32F4 series). This platform includes the STM32Cube HAL (an STM32 abstraction layer embedded software, ensuring maximized portability across STM32 portfolio), plus a consistent set of middleware components (RTOS, USB, TCP/IP and graphics). All embedded software utilities come with a full set of examples.

STM32CubeMX is an extension of the existing MicroXplorer tool. It is a graphical tool that allows configuring STM32 microcontrollers very easily and generating the corresponding initialization C code through a step-by-step process.

Step one consists in selecting the STMicroelectronics STM32 microcontroller that matches the required set of peripherals.

The user must then configure each required embedded software thanks to a pinout-conflict solver, a clock-tree setting helper, a power-consumption calculator, and a utility performing MCU peripheral configuration (GPIO, USART,...) and middleware stacks (USB, TCP/IP,...).

Finally, the user launches the generation of the initialization C code based on the selected configuration. This code is ready to be used within several development environments. The user code is kept at the next code generation.

1 Revision history

Table 1. Document revision history

Date	Revision	Changes
17-Nov-2015	1	Initial version.