IOTA Distributed Ledger Technology software expansion for STM32Cube

Features

- Complete middleware to build IOTA Distributed Ledger Technology (DLT) applications for STM32-based boards
- Easy portability across different MCU families, thanks to STM32Cube
- Examples to help understand how to develop an IOTA DLT application
- Includes the STM32CubeMX project file (.ioc) for the graphical visualization of the STM32 microcontroller pins, peripherals and middleware configuration
- Free, user-friendly license terms

Description

The X-CUBE-IOTA1 expansion software package for STM32Cube runs on the STM32 and includes middleware to enable the IOTA Distributed Ledger Technology (DLT) functions.

The IOTA DLT is a transaction settlement and data transfer layer for the Internet of Things (IoT). IOTA allows people and machines to transfer money and/or data without any transaction fees in a trustless, permissionless and decentralized environment. This technology even makes micro-payments possible without the need of a trusted intermediary of any kind.

The expansion is built on STM32Cube software technology to ease portability across different STM32microcontrollers.

The software comes with sample implementations to use the IOTA middleware on a NUCLEO-F429ZI or NUCLEO-F746ZG development board.

Product summary	
IOTA distributed ledger technology software expansion for STM32Cube	X-CUBE-IOTA1
STM32 Nucleo-144 development board with STM32F429ZI MCU	NUCLEO-F429ZI
STM32 Nucleo-144 development board with STM32F746ZG MCU	NUCLEO-F746ZG

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1 Detailed description

1.1 What is STM32Cube?

STMCube™ is an STMicroelectronics initiative that helps you reduce development effort, time and cost. STM32Cube covers the STM32 portfolio.

STM32Cube version 1.x includes:

- STM32CubeMX, a graphical software configuration tool that allows the generation of C initialization code using graphical wizards.
- A comprehensive embedded software platform specific to each series (such as the STM32CubeF4 for the STM32F4 series), which includes:
  – the STM32Cube HAL embedded abstraction-layer software, ensuring maximized portability across the STM32 portfolio
  – a consistent set of middleware components such as RTOS, USB, TCP/IP and graphics
  – all embedded software utilities with a full set of examples

1.2 How does this software complement STM32Cube?

The proposed software is based on the STM32CubeHAL, the hardware abstraction layer for the STM32 microcontroller.

The package extends STM32Cube by providing some middleware components to enable the IOTA Distributed Ledger Technology, building a cryptographically secured distributed database that records transactions on an STM32 microcontroller.

The package includes sample applications showing how to create an IOTA Light Node, running on an STM32 microcontroller, for use cases especially related to data and value transactions among machines.

Revision history

Table 1. Document revision history

Date	Version	Changes
10-Jun-2019	1	Initial release.

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