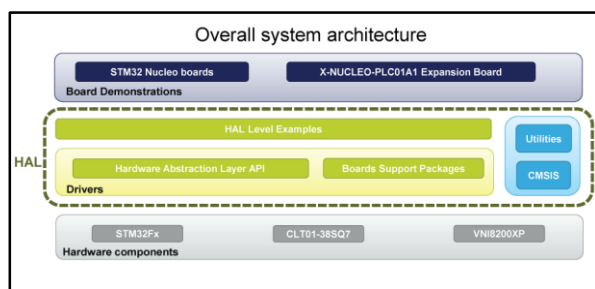


Industrial input/output software expansion for STM32Cube

Data brief

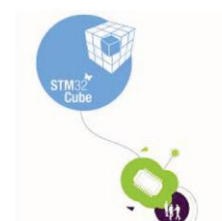


Features

- Complete software package to build and combine industrial inputs and outputs to perform basic sets of PLC (Programmable Logic Controller) operations
- Driver layer for easy management of CLT01-38SQ7 and VNI8200XP devices
- Easy portability across different MCU families, thanks to STM32Cube
- Free user-friendly license terms
- Sample implementation available on the X-NUCLEO-PLC01A1 board when connected to NUCLEO-F030R8, NUCLEO-F103RB or NUCLEO-F401RE

Description

X-CUBE-PLC1 is an expansion software package for STM32Cube. The software runs on STM32 and includes drivers for the CLT01-38SQ7 (industrial inputs management) and the VNI8200XP (industrial outputs management). The expansion is built on STM32Cube software technology to ease portability across different STM32 microcontrollers. The software comes with sample implementations of the drivers running on the X-NUCLEO-PLC01A1, when plugged to a NUCLEO-F030R8 (or NUCLEO-F103RB or NUCLEO-F401RE). To help you get started quickly, the package includes a list of front-end functions covering the more common PLC operations.



1 Detailed description

What is STM32Cube?

STM32Cube™ represents an innovative STMicroelectronics solution to reduce development effort, time and cost. STM32Cube covers the STM32 portfolio.

Version 1.x of STM32Cube includes:

- STM32CubeMX, a graphical software configuration interface with wizards to generate C initialization code
- A comprehensive embedded software platform tailored to each series (such as the STM32CubeF4 for STM32F4 series)
 - STM32Cube HAL, the STM32 abstraction layer embedded software which guarantees maximized portability across the STM32 portfolio
 - A consistent set of middleware components, such as RTOS, USB, TCP/IP and graphics
 - All embedded software utilities, including a full set of examples

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 a board support package (BSP) for the X-NUCLEO-PLC01A1 expansion board. The drivers abstract low-level hardware details and allow applications to access industrial inputs management (CLT01-38SQ7) and industrial outputs management (VNI8200XP) data in a hardware-independent environment. The package also includes a set of examples that the developer can use to start experimenting with the code. Inputs and outputs are managed via the SPI peripheral and application debugging is supported on the X-NUCLEO-PLC01A1 through a set of diagnostics and activity LEDs.

2 Revision history

Table 1: Document revision history

Date	Version	Changes
01-Jul-2015	1	Initial release.

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