Hardware Ethernet switch configuration and TSN tools Expansion Package for STM32 MPU OpenSTLinux
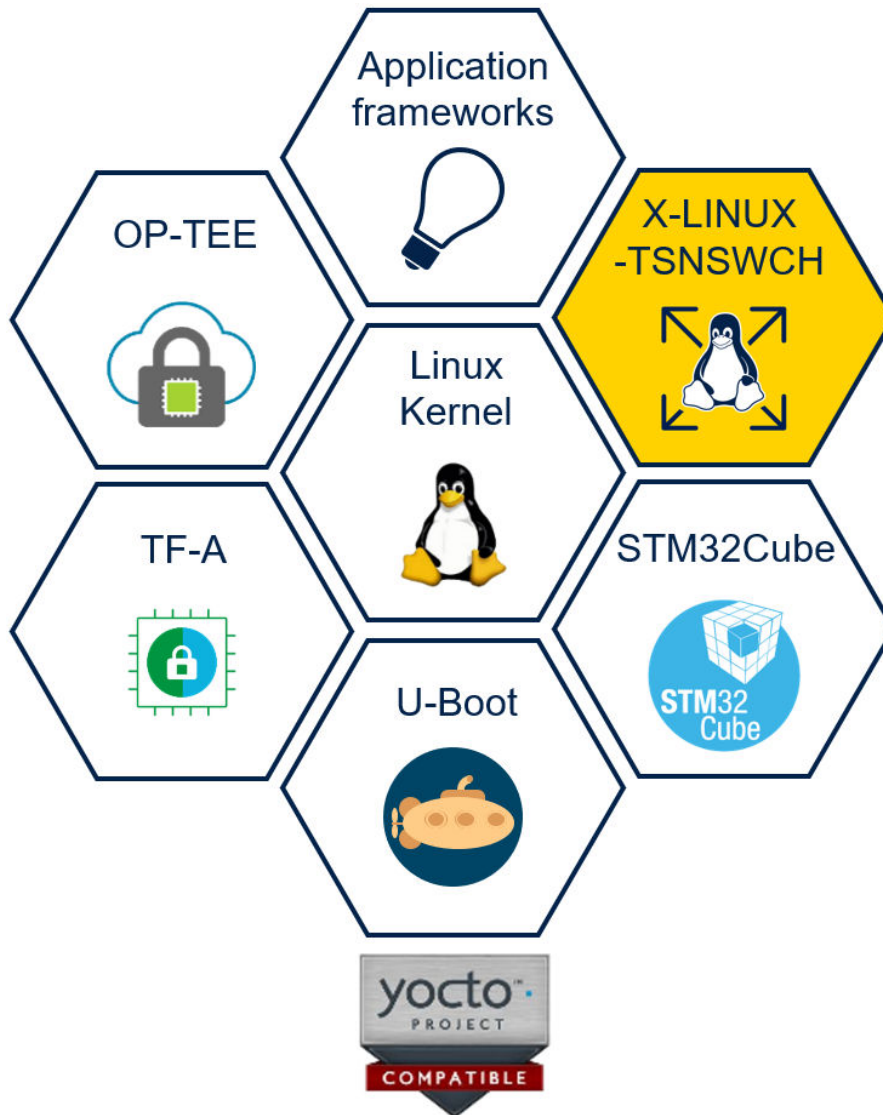

Product status link
X-LINUX-TSNSWCH

DB5360 - Rev 1 - October 2024
For further information contact your local STMicroelectronics sales office.

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Features

- OpenSTLinux time-sensitive networking (TSN) and Ethernet switch extension for STM32MP2 microprocessors
- Compatible with the Yocto Project® build system
- Configuration and activation of the hardware Ethernet switch
- Installation of tools to optimize TSN configurations
- Possibility to use the switch with or without the TSN function
- Necessary utilities to configure TSN endpoints

Description

X-LINUX-TSNSWCH is an OpenSTLinux Expansion Package that targets both the time-sensitive networking (TSN) feature and the hardware Ethernet switch configuration in Linux®.

By default, the OpenSTLinux Distribution enables and manages TSN. Adding X-LINUX-TSNSWCH to the Linux® distribution makes the hardware Ethernet switch ready to use. In addition, it installs the TSN tools on the platform to configure the Ethernet interfaces.

The X-LINUX-TSNSWCH Expansion Package is a Yocto layer. It provides the necessary material to generate software for managing TSN and the hardware Ethernet switch at the userland and Linux® kernel levels. It eases development for a user wanting to achieve one of the following goals:

- Configure and activate the hardware Ethernet switch
- Install tools to optimize TSN configurations
- Use the hardware Ethernet switch with or without the TSN function
- Have the necessary utilities to configure TSN endpoints

1 General information

The X-LINUX-TSNSWCH Expansion Package runs on STM32 microprocessors based on Arm® Cortex® processors.

Note: *Arm is a registered trademark of Arm Limited (or its subsidiaries) in the US and/or elsewhere.*

1.1 Ordering information

X-LINUX-TSNSWCH is available for free download from the *www.st.com* website.

1.2 Versioning

The major and minor versions of the X-LINUX-TSNSWCH OpenSTLinux Expansion Package are aligned on the major and minor versions of the OpenSTLinux Distribution. This prevents painful backward compatibility attempts and makes dependencies straightforward.

The X-LINUX-TSNSWCH generic versioning vx.y.z is built as follows:

- **x**: major version matching the OpenSTLinux Distribution major version. Each new major version is incompatible with previous OpenSTLinux Distribution versions.
- **y**: minor version matching the OpenSTLinux Distribution minor version. Each new minor version might be incompatible with previous OpenSTLinux Distribution versions.
- **z**: patch version to introduce bug fixes. A patch version is implemented in a backward-compatible manner.

1.3 License

X-LINUX-TSNSWCH is delivered under the *Mix Ultimate Liberty+OSS+3rd-party V1* software license agreement (SLA0048).

Software component license agreements

The software components provided in this package come with different license schemes. Refer to wiki.st.com/stm32mpu/wiki/X-LINUX-TSNSWCH_licenses for details.

Revision history

Table 1. Document revision history

Date	Revision	Changes
29-Oct-2024	1	Initial release.

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