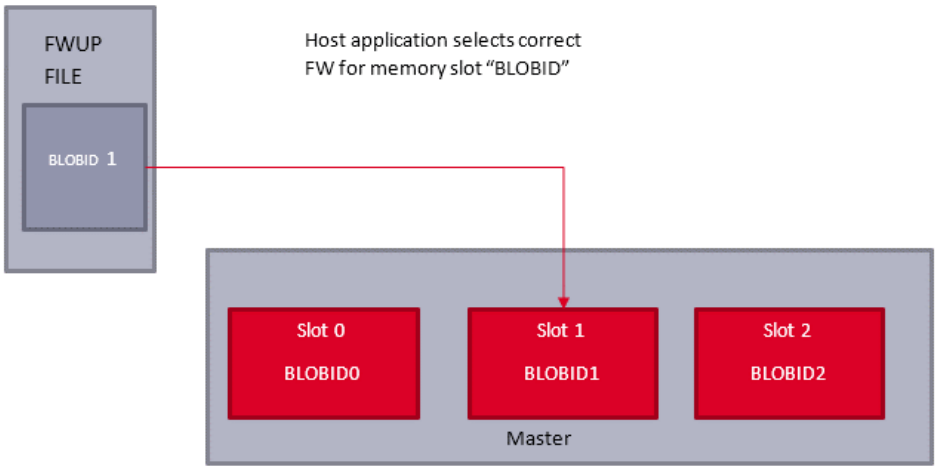
TEConcept IO-Link

SMI-based Master Bootloader



Overview

The TEConcept firmware update services are executed in a specific mode called "Bootmode" that is distinguished from the Standard Master operational mode that is referred to as "Technology Application mode". The TEConcept **bootloader** is based on customer-specific SMI services. During the firmware update process, a binary data sequence is transferred by the bootloader to the Master. This binary sequence is processed by a custom **bootloader application (not included)**, on the Master which is responsible for the interpretation of the binary file.

Features

- IO-Link V1.1.3 compliant
- Bootloader uses extended SMI services
- Handles power failures during update
- Update process is based on handshake protocols
- Data scrambling / encryption supported
- CRC protection
- Support of multiple FW variants
- Activation of previous variants supported
- Binary and meta data merged into on file
- Packager for file included

New SMI Services

SMI_TEC_MASTER_INFO
SMI_TEC_ENTER_BOOTMODE
SMI_TEC_FW_BOOT_INFO
SMI_TEC_FW_UPDATE_START
SMI_TEC_FW_DATA
SMI_TEC_FW_ACTIVATE

Advantages

- Bootloader transfers firmware binary safely independent from Bootloader-application
- Bootloader application interprets received binary and is responsible for storing the new image and to handle activation of different firmware version identified by BLOBIDs.
- Only SMI needed to support firmware update, no special update interface.

Delivery

Bootloader Manual

Description of extended SMI service

Simple example application

Packager for metadata and binary image

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