APPLICATION BRIEF

CIPURSE™ Terminal Library

For fast implementation of CIPURSE™

With the CIPURSE™ Terminal Library, any type of terminal can be easily and quickly upgraded to support the CIPURSE™ open standard. The CIPURSE™ Terminal Library supports efficient development and enhancement of existing terminals by encapsulating CIPURSE™ core mechanisms and by providing high-level operational functions for many use cases. These use cases include personalization steps for CIPURSE™ contactless cards and Secure Access Modules (SAM) as well as operational steps for systems with contactless cards and one or more SAMs. Terminal and reader makers can benefit from significantly reduced development times and faster time-to-market for their products.

CIPURSE™ Terminal Library enables any terminal to get the best performance out of CIPURSE™-compliant products. The library is available in a number of programming languages addressing the diverse ecosystems of terminals, which could be based on Windows, Linux or Android. The library does not require special hardware and it allows most existing terminals to be extended to support CIPURSE™.

The library works perfectly with products compliant with CIPURSE™ SAM SLF 9630 and CIPURSE™ V2. Exemplary source code is also available to support software CIPURSE™ SAM implementations.

I/O management

Contactless

– ISO/IEC 14443-4 transmission protocol

Contact-based

– ISO/IEC 7816-3 transmission protocol

CIPURSE™ Terminal Library package

– Source code: CIPURSE™ Terminal Library in ANSI C, C++ and Java
– Project files to support Visual Studio, Linux (makefile), Eclipse, QT and Android Studio
– Documentation describing all components and examples
– Terminal integration guide describing the steps involved in including the package in a terminal software project

Terminal application

– Functionality depends on the terminal's purpose and the required business rules
– Basic software examples illustrate the use of various functions for CIPURSE™ cards and CIPURSE™ SAM

Fare media abstraction layer

– Optional layer, in case multiple fare media types have to be supported by the terminal
– Translates business logic to fare media-specific commands

Key features

Featured use cases

– Personalization of CIPURSE™ SAMs
– Operational use of CIPURSE™ SAMs
– Personalization of CIPURSE™ cards
– Operational use of CIPURSE™ cards

Typical applications

– Card personalization machines
– Key management devices
– Access gates
– Ticket vending machine
– Transport gate

About CIPURSE™

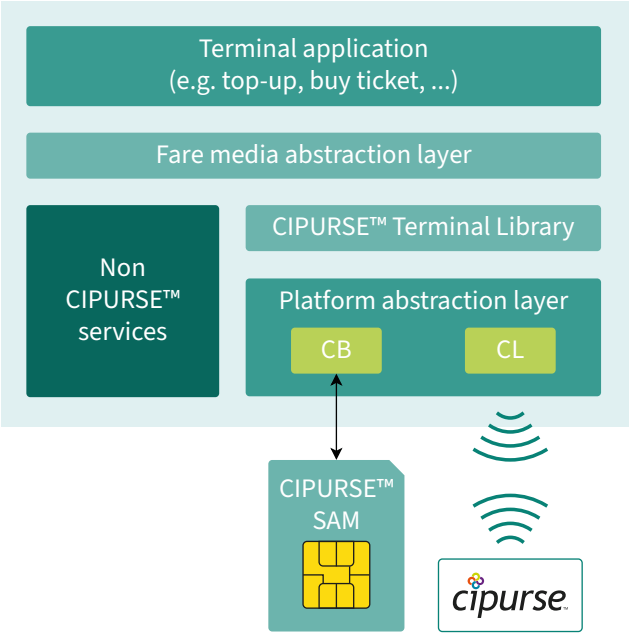
– CIPURSE™ solves the problem of single-vendor proprietary protocols
– Uses state-of-the-art security (AES-128)
– Supports multiple applications
– Enables upgrades from and compatibility with legacy systems
– Enables cross-vendor system interoperability
– Reduces the risk of adopting new technology

*CIPURSE™ is an open standard defined by the OSPT™ (Open Standard for Public Transport) Alliance

CIPURSE™ Terminal Library
- Providing an application programming interface (API) to generate CIPURSE™ APDUs and CIPURSE™ SAM APDUs
- Integrating authentication, wrapping and unwrapping of APDUs
- Supporting hardware SAM, software SAM and hybrid mode

Platform abstraction layer
- Terminal-specific layer, has to be adopted to the terminal hardware
- Communication channels to card (contactless, e.g. T = CL)
- Communication channel to SAM (contact-based, e.g. T = 1)

Non CIPURSE™ services
- Optional, supporting other card schemes, e.g. legacy solutions



CIPURSE™ product portfolio

Name	
CIPURSE™ move	SLM 10TLC002L
CIPURSE™ 4move	SLS 32TLC00xS(M)
CIPURSE™ Security Controller	SLS 32TLC100(M)
SECORA™ Pay X	SLJ32PDE080X2 SLJ32PDE120X
CIPURSE™ SAM	SLF 9630

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