

CycurV2X-SDK

Embedded security stack

CycurV2X-SDK is a software development kit (SDK) enabling secure communication of V2X applications. CycurV2X-SDK is responsible for verifying, signing, encrypting and decrypting messages in SCMS, ETSI G-ITS & CCSA formats.

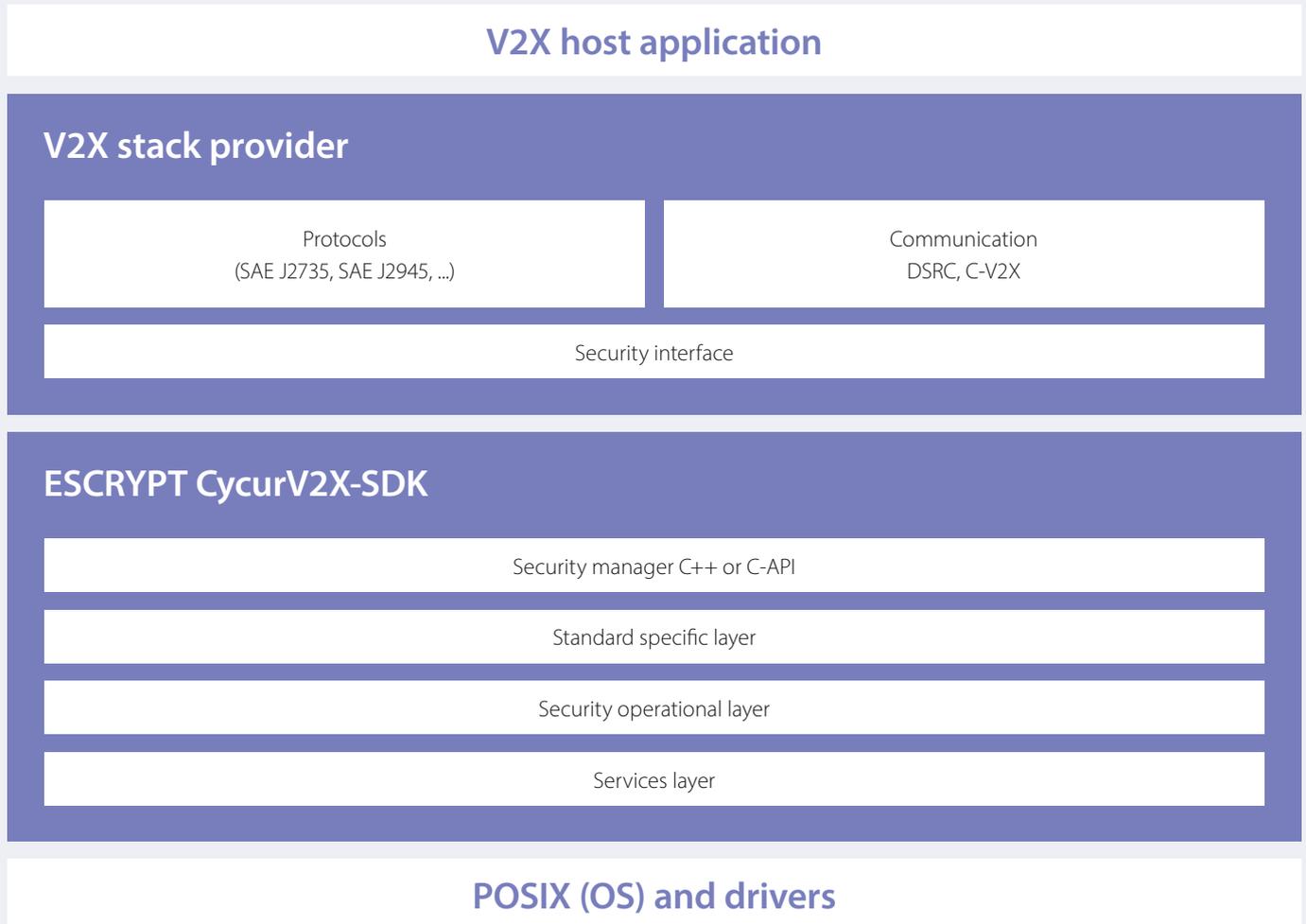
The SDK manages the PKI communication and security management policies according to North American, European and Chinese standards. CycurV2X-SDK is air interface agnostic and supports both DSRC and C-V2X platforms. CycurV2X-SDK embedded security stack runs on a variety of microprocessor architectures and it is POSIX-compliant.

CycurV2X-SDK can be used in both vehicular onboard units and infrastructure roadside units. Compliance and interoperability have been field tested in multi-vendor environments and at industry testing events such as the OmniAir Plugfest and ITS CMS Plugtest. Planning for new 4 layer CCSA large scale conformance test is in progress.

CycurV2X-SDK

Embedded architecture

CycurV2X-SDK consists of security components, interfaces and management and can be integrated with any V2X middleware stack providers. The SDK was developed using C++ 11 with both C++ and C APIs. Sample code and executables can be provided to facilitate testing and integration.





Network services integration

The CysurV2X-SDK can be integrated with different V2X middleware and network services (IEEE 1609.3 and IEEE 1609.4) to implement V2X applications. CysurV2X-SDK is air interface agnostic and has been integrated with both DSRC and C-V2X platforms.

C-ITS CMS & SCMS integration

CysurV2X-SDK supports both North American and European V2X credential management systems to facilitate integration testing, certificate provisioning and V2X application development and specific use cases. Support for the Chinese security credential management systems is in progress. CysurV2X-SDK can integrate with any PKI that follows the standards including ESCRYPT's CysurV2X-PKI.

Automotive standards

- Developed according to Automotive SPICE requirements

Platform support

CysurV2X-SDK supports most microprocessors, POSIX Operating Systems, Hardware Security Modules (HSM) and crypto accelerators available in the market. Below is a sample of supported platforms.

Supported platform(s)

Processors

ARMv7 architecture

x86/x86_64 architecture

HSMs & crypto accelerators

Autotalks CRATON 2

Autotalks SECTON

Infineon SLS37 (Planned)

NXP Roadlink SAF5400
and SXF1800

ThinkTech (TTM2000)

CycurV2X-SDK production solution

Key features

- Supports secure file and certificate management
- Supports EU certificate policy for C-ITS deployment and operation
- Provides software-based security for early development and testing
- Provides extensible hardware abstraction layer
- Supports customization upon request, such as:
 - AT provisioning
 - ETSI C-ITS CMS registration process
 - Security profile (C-ITS CMS, CCSA & SCMS)
 - ETSI ID change strategy

Product performance

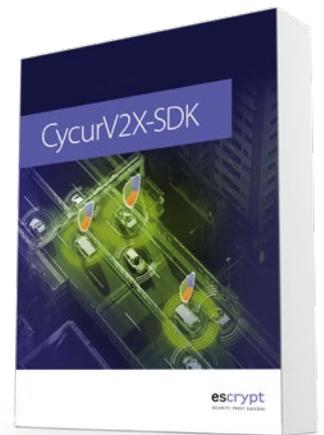
- CycurV2X-SDK performance is V2X hardware platform dependent
- CycurV2X-SDK meets stated cryptographic performance of Hardware Security Modules (HSM) and crypto accelerators

Conformance

- IEEE 1609.2b-2019
- CAMP-SCMS 1.2.2
- IEEE 1609.2.1
- ETSI TS 102 941 v1.4.1
- ETSI TS 103 097 v1.4.1
- ETSI TS 103 096-2 v1.4.1
- ETSI TS 103 940 v1.3.1
- Supports security profiles for C-ITS standard messages (such as CAM, DENM, etc.)
- ETSI TS 103 600-2 v1.1.1
- ETSI TS 103 525-2 v1.1.4
- China CCSA Security Certificate Management System for LTE-based Vehicular Communication

Your benefits

- ✓ Easy to integrate, configure and manage
- ✓ Performance optimized and scalable architecture to maximize system benefit
- ✓ Faster time to market through a simple API
- ✓ Customizable to respond to specific V2X use cases
- ✓ Effective isolation of the host application from ongoing and future PKI changes
- ✓ Reduced deployment risk through V2X consulting services
- ✓ Robust solution leveraging ESCRYPT's in depth embedded security design and know-how



Any questions?

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