



Secure V2X Communications

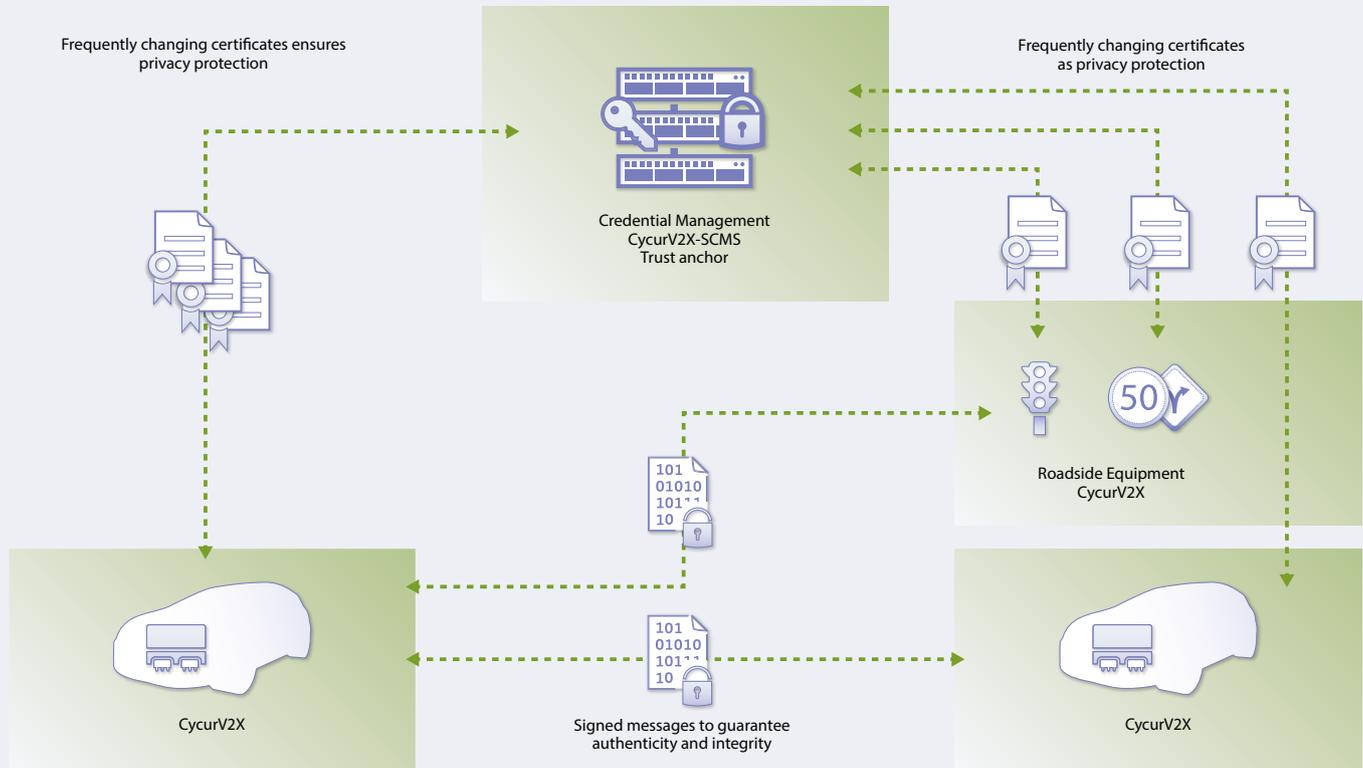
Security Credentials Management – Enabling the Benefits of V2X

Connected vehicle technology is an essential enabler for safer roads and future autonomous vehicle deployments. Direct vehicle to vehicle (V2V) and vehicle to infrastructure (V2I) digital wireless communication (collectively referred to as V2X) enables vehicles to communicate with each other and roadside equipment. The technology is also a valuable enabler that accelerates the deployment of practical automated and driver assist solutions.

V2X is built on an underlying infrastructure of secure, reliable, two-way authenticated messages among vehicles and roadside equipment. ESCRYPT has been leading the effort in securing V2X communications. As technical security experts for several international V2X pilot projects, ESCRYPT has been helping to define the specifications around the Security Credentials Management System (SCMS), the security infrastructure behind V2X.

In order to function safely, V2X needs a security infrastructure to ensure the trustworthiness of communication of every message. Specifically, the source of each message needs to be trusted and the message content needs to be protected from outside interference or modification. In order to create the required environment of trust requires the use of digital signatures to protect the integrity of the message content and certificates to validate the integrity of the sender.

The SCMS is the infrastructure that has been designed specifically to enable V2X capabilities. Its design is built on Elliptic Curve Cryptography (ECC) technology and best practices with novel extensions that support privacy and large-scale deployment. The ESCRYPT team is comprised of world leading experts in ECC and embedded security technologies and is the reason we are the technical security experts behind securing V2X communications.



The Products

CycurV2X is the embedded software SDK implementation of the security services required to secure V2X communications. CycurV2X enables automotive OEMs, Tier-1 suppliers, and roadside equipment manufacturers to quickly build and deliver robust, standards compliant V2X security solutions that are easy to integrate, deploy, and manage. It provides a complete, standards compliant embedded V2X security solution that encapsulates the North-American and European infrastructure interfaces behind a simple API allowing for faster integration and effective isolation of V2X host applications from future changes in the back-end protocols.

CycurV2X-SCMS is a set of PKI backend infrastructure components that are used to provision (enroll), register, and manage the security services for V2X communications in vehicles and roadside units. CycurV2X-SCMS provides a complete, standards compliant credential management platform for V2X applications, including implementations of an Enrollment Certificate Authority (ECA), Pseudonym Certificate Authority (PCA), and Registration Authority (RA).

Your Benefits

- **Complete Solution**
 Solutions for embedded on-board equipment in vehicles and roadside infrastructure as well as the backend security infrastructure
- **Easy to Deploy and Manage**
 Turnkey service that scales seamlessly from small early-stage deployments to full-production support.
- **Standards Compliant**
 Adhering to North American and European standards
- **High Performance**
 Components that can scale to manage millions of vehicles and road side equipment,

