

# Trustpay

**Secure payment for mobile and POS with hardware isolation.**

## Security risks in electronic payment

The popularity of e-commerce has placed the security of electronic payment (e-payment for short) at an increasingly concerned position. Currently the transaction processing of e-payment is actually built upon a relatively insecure infrastructure. As the major carriers of e-payment, mobile devices and POS tend to run vanilla or customized commodity operating systems, who are vulnerable to many exploits.

By exploiting the underlying platform, the original logic of e-payment can be altered and the privacy data can be exposed to untrusted components.

However, it is not trivial to protect the currently existing platform due to its high complexity and various interfaces. Moreover, for the mobile devices, there is a possibility that users may actively breach the built-in security mechanism for certain purpose.

Therefore, the commodity operating system, as the underlying platform of e-payment, is not trustworthy.

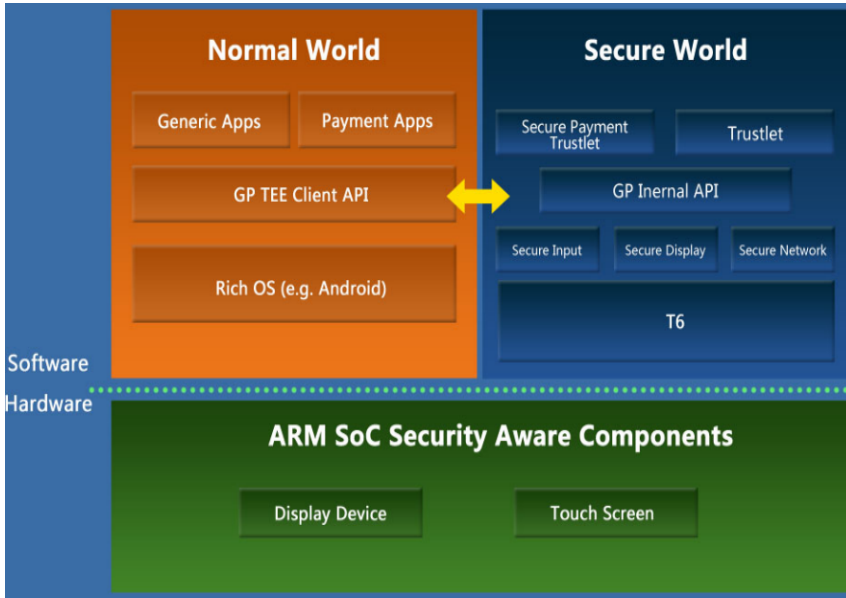
### Product highlights

- Security through isolation.
- Integrity of Data.
- Trusted UI.
- Reinforcement of authentication
- Cryptography module.

## Electronic Payment in a specialized environment

TrustPay places the essential logic of e-payment in a secure execution environment. The secure execution environment, which is isolated from the normal execution environment with the help of ARM's TrustZone technology, provides a strong guarantee of the integrity of control flow and confidentiality of data.

This means the logic of e-payment can be executed without being interfered by illegal means issued from the normal execution environment, thus preventing any sort of data leaks.



Software Stack

**Service highlights**

- Flexible Customization
- Comprehensive Security Analysis Service

## Trusted UI

The process of e-payment includes a large amount of user engagement. Users must provide credentials, which is also a potential vulnerability of data leak. TrustPay provides Trusted UI, a secure user interface, with which user can securely communicate with the remote payment system.

## Reinforcement of authentication

User can provide various types of credentials other than password, include fingerprint for the security of authentication. TrustPay secure infrastructure guarantees the confidentiality and integrity of credential data.

## Cryptography Module

Cryptography is indispensable in the e-payment. The cryptography module participates the protection of credentials as well as the establishment of secure message channels. TrustPay provides a set of secure cryptograph interface that does not rely on an untrusted component.

## Learn More

For more information, please visit <http://trustkernel.org> or email [contact@trustkernel.org](mailto:contact@trustkernel.org).

## About TrustKernel

Founded in 2013 and headquartered in Shanghai, TrustKernel is focused on next generation mobile and server security solutions and tries to provide these available solutions to end users.

TrustKernel’s defined goal is to deliver fast and simple IT security solutions for mobile, embedded devices and server to our customers and partners.