

Mobile Payment Protocols

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Introduction

- Alongside traditional commerce, e-payment rises
- It all revolves around the needs of the customers
- People demand simplicity, haste, customization and mobility

Payment methods

- Forms of payment: cash, check, debit card, credit card, electronic (wireless subset is mobile payment)
- For more information, check the Buttyanian slides

Mobile commerce

- Participants: customers, merchants, banks, mobil service providers, mobil device manufacturers, government
- Types: bank account (needs card+account), electronic cash (converts cash to e-cash), phone bill (prepaid or postpaid)

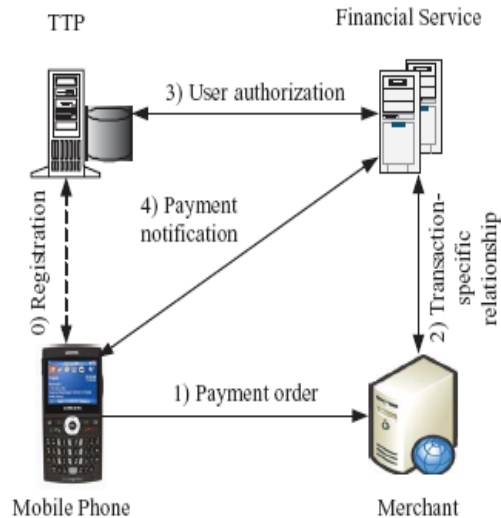
Aspects of security

- Authentication (who are we?)
- Authorization (are you sure?)
- Confidentiality (don't tell anyone)
- Integrity (don't change it)
- Non-repudiation (yes, it was you)

Types of Mobile Payment

- SET protocol
- Role-based 3 domain model
- Virtual POS protocol
- Real Point of Sale
- KSL protocol
- E-Cash model

Architecture



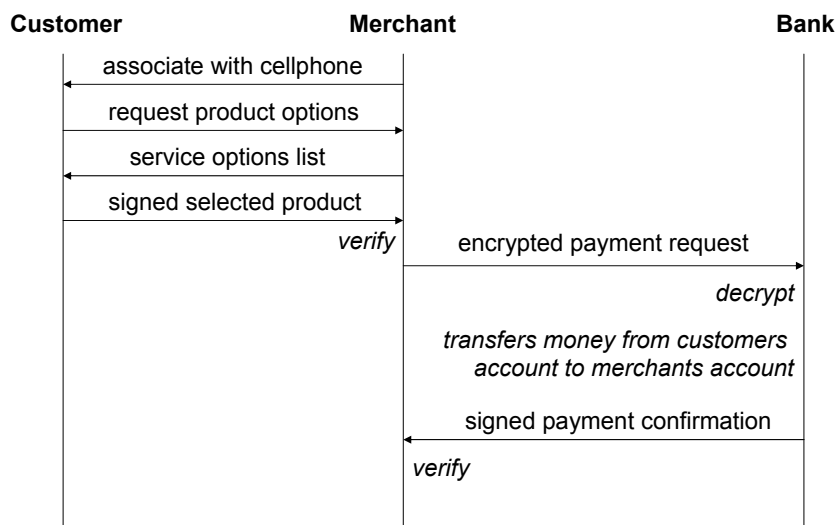
SET protocol

- Secure Electronic Transaction
- Needs credit card and SET installed
- Purchase on SET supported site → SET wallet activates → payment info → crypto functions → request sent → confirmation → funds transferred → delivery of item and the proof of transaction

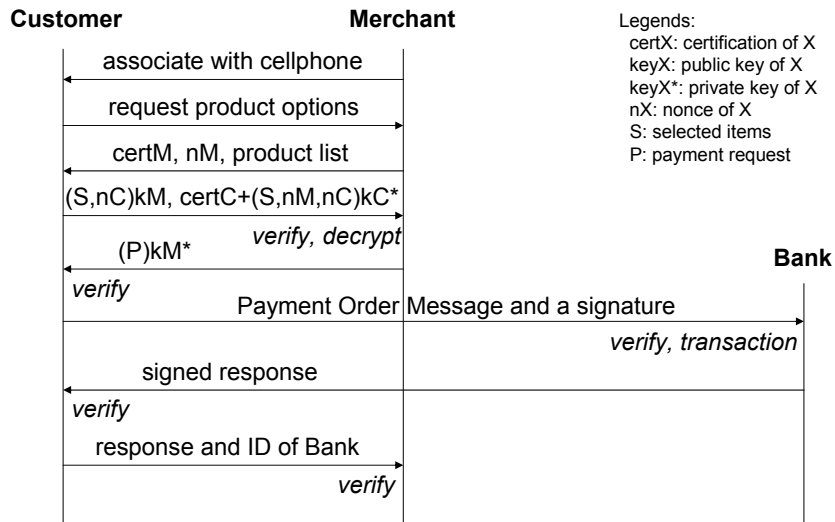
Role-based 3 domain model

- Multiple roles for one participants (optional)
- Uses GSM security functions
- Registry on wallet server → offline/online purchase → customer auth (GSM) → payment process (interchange network) → item delivery (offline/online) → clearing and settlement (data recording) → (optional) restart/continue

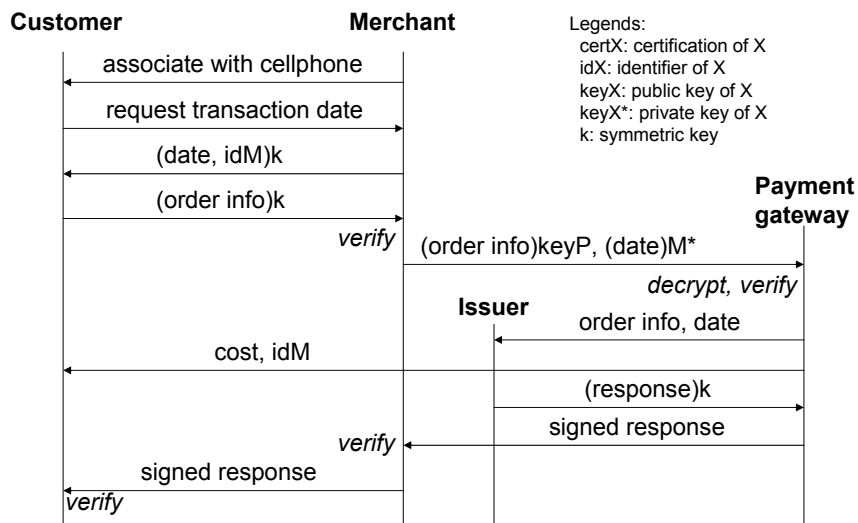
Virtual POS protocol



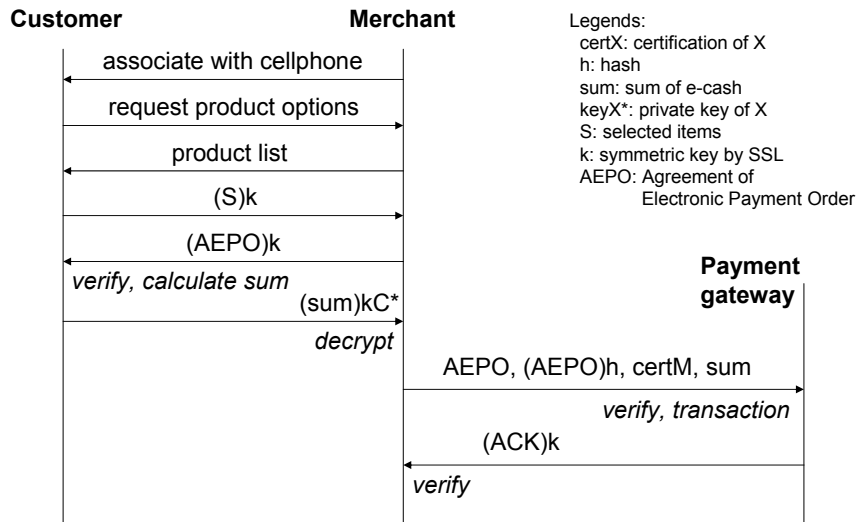
Real Point of Sale



KSL protocol



E-Cash model



Mobile Payment in Hungary

- T-mobile (Hun. Telecom) (FHB account)
- Purchasing items with cellphone
- Paying bills (general household services)
- Transactions between similar users
- Charging prepaid cellphone
- Procedure: giving identifier, getting confirmation message, accept / decline / ignore (and decide later)

Summary

- Mobile payment protocols provide an easy and secure way for commerce
- Spread and domination is based on the commerce culture of different societies
- Protocols are already implemented, but new ones shall rise too
- It is also available in Hungary