Advanced Card Systems Ltd.
Card & Reader Technologies

ACOS7
MOC Combi-Card

A Product Presentation

Rundown

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Product Overview

Product Overview

ACOS7 (8 KB EEPROM)
MOC Combi-Card

Combi interface Full-sized card

Contactless Full-sized card

Product Features

What are the Key Features of ACOS7?

Combi Card

- Supports both contact and contactless interface by the same chip
- 8 KB EEPROM memory
- Switchable baud rate from 9600 BPS to 115200 BPS
- Data transfer rate supports up to 848 Kbps
- Protocol T=CL (for Contactless Interface)

Combi Card

- ISO 7816 Parts 1-4 compliant
- ISO 14443 Parts 1- 4 & ISO 14443-A Compliant
- ISO 7816 Part 4 file structures support : Transparent, Linear Fixed, Linear Variable, Cyclic

Contactless Card

- 8 KB EEPROM memory
- ISO 14443 Parts 1- 4 & ISO 14443-A compliant
- Protocol T=CL according to ISO 14443-4
- Data transfer rate supports up to 848 Kbps

Other Features

- PBOC e-Deposit and e-Purse payment application support
- Strong Cryptographic Capabilities: DES/3DES/Secure Messaging /MAC
- Compliance with Ministry of Construction
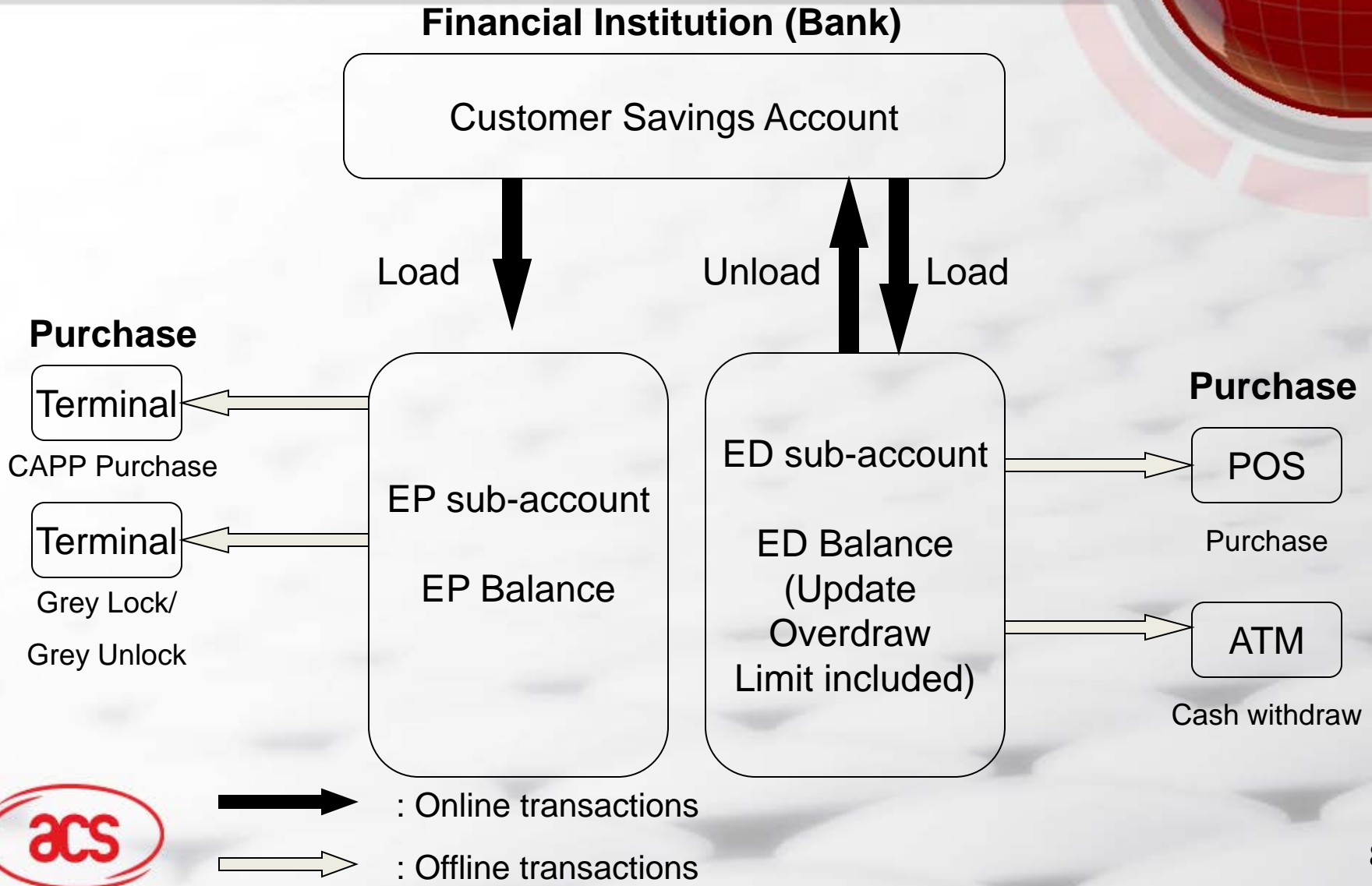- (MoC Standard)

7 Types of Transactions

	Online/Offline	PIN Verification
Load	*Online*	*Yes*
Unload	*Online*	*Yes*
Cash Withdraw	*Offline*	*Yes*
Purchase	*Offline*	*No*
Update Overdraw Limit	*Online*	*Yes*
CAPP Purchase	*Offline*	*No*
Grey Lock	*Offline*	*No*
Grey Unlock	*Online*	*No*

7 Types of Transactions

Financial Institution (Bank)

Customer Savings Account

Load

Unload   Load

Purchase

Terminal

CAPP Purchase

Terminal

Grey Lock/

Grey Unlock

EP sub-account

EP Balance

ED sub-account

ED Balance
(Update
Overdraw
Limit included)

Purchase

POS

Purchase

ATM

Cash withdraw

: Online transactions

: Offline transactions

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Comparison Charts

Comparison Chart

Category		ACOS7 Combi	ACOS7 Contactless
Product Code		ACOS7-G1K	ACOS7-G1L
Communication Speed			
Contact	9,600 BPS - 223,200 BPS	✓	
Contactless	106,000 BPS - 848,000 BPS	✓	✓
EEPROM Size			
User Memory		8 KB	8 KB
Protocol			
Contact	T = 0	✓	
Contactless	T = CL	✓	✓

Comparison Chart

Category		ACOS7 Combi	ACOS7 Contactless
ISO Standards			
Contact	ISO 7816 – 1/2/3/4	✓	
Contactless	ISO 14443-1/2/3/4	✓	✓
	ISO 14443 Type A	✓	✓
File Systems			
Transparent (Binary File)		✓	✓
Linear Fixed Record		✓	✓
Linear Variable		✓	✓
Cyclic		✓	✓
Security/Cryptographic Capabilities			
DES/3DES		✓	✓
Secure Messaging		✓	✓
Mutual Authentication		✓	✓
FIPS 140-2–compliant hardware based random number generator		✓	✓

Comparison Chart

Category	ACOS7 Combi	ACOS7 Contactless
EEPROM Endurance		
100,000 write/erase cycles		
500,000 write/erase cycles	✓	✓
Applications		
Transportation (e.g., Petrol card, Car parking payment card, etc.)	Petrol card, Car parking payment card	Petrol card, Car parking payment card
e-Banking and e-Payment (e.g., Insurance card, Micropayment card, etc.)	Insurance card, Micropayment card	Insurance card, Micropayment card
Loyalty and Retail (e.g., Cashless retail payment, Customer loyalty, etc.)	e-Payment, Customer Loyalty, Toll Card	e-Payment, Customer Loyalty, Toll Card

Product Application

In what areas can we apply ACOS7?

Transportation
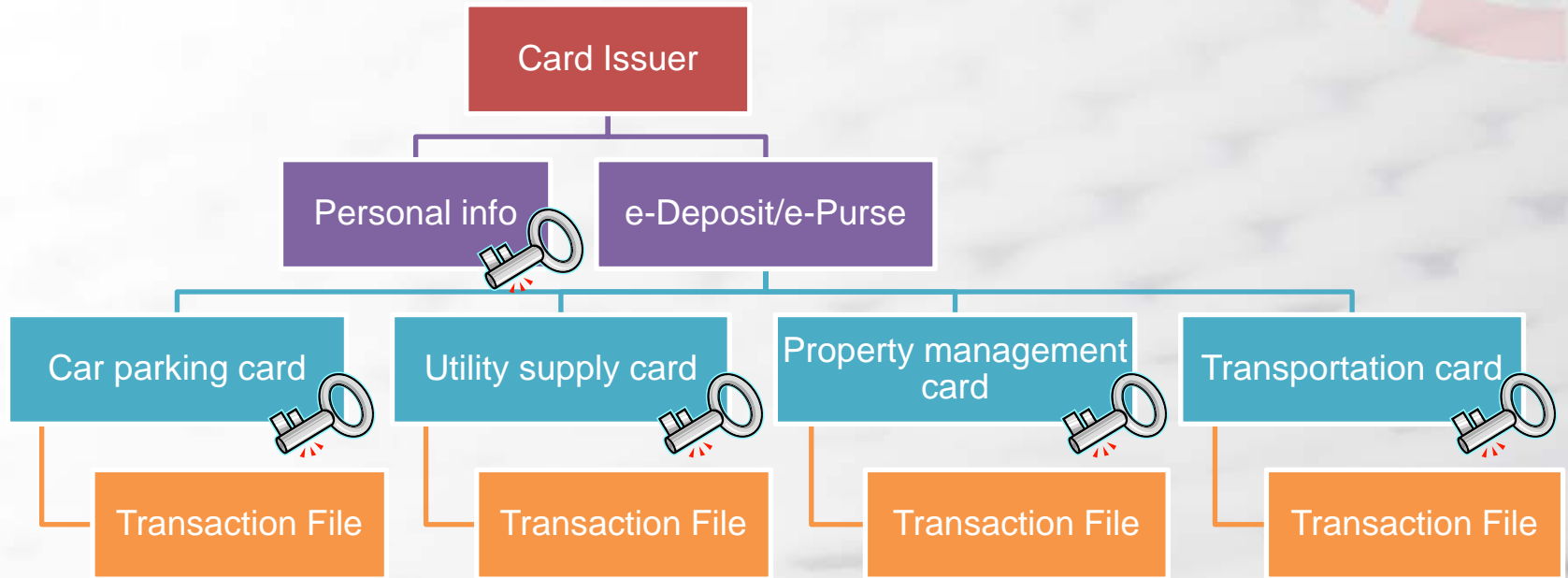
E-Banking and e-Payment

e-Government

Network Security

Loyalty Program

How to Use ACOS7 - Overview

Multiple applications in one card

Card Issuer
- Personal info
- e-Deposit/e-Purse
  - Car parking card → Transaction File
  - Utility supply card → Transaction File
  - Property management card → Transaction File
  - Transportation card → Transaction File

How to Use ACOS7 - Overview
Sample Scenario: Multi-Application Card

Card is issued to Consumers

Information stored e.g.:
1. Cardholder's Name
2. Address
3. e-Deposit Amount

Consumer can use the card in transportation

Use ACOS7 with a smart card reader (e.g., ACR122L)

Consumer can use the card in retail purchases

Use ACOS7 with a smart card reader (e.g., ACR1281)

Consumer can also use the card in paying the parking fee

Use ACOS7 with a smart card reader (e.g., ACR1283L)

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Related Products

ACOS7 and ACOS10 Combi Card SDK

ACOS7 and ACOS10 Combi Card SDK (Software Development Kit) enables you to efficiently develop new applications and systems or incorporate the ACOS smart card into your existing applications that require Ministry of Construction (MOC) and People's Bank of China 2.0 e-Purse and e-Deposit (PBOC2.0 EPED) specifications.

The SDK's technical documents, demo application, and smart card and reader tool offer both English and Chinese language support, to match the growing use of smart cards in China and in the Asia-Pacific (APAC) region, and to cater to the growing number of Chinese-speaking application developers.

The ACOS7 and ACOS10 Combi can be applied to transportation, retail, property management, car parking, utility supply, etc.

Thank You!

For more information, visit:

http://www.acs.com.hk/en/products/123/acos7-moc-combi-card/