



Advanced Card Systems Ltd.
Card & Reader Technologies



**ACOS 10 – B/G
PBOC 2.0 EDEP Card**

A Product Presentation



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Rundown



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2. Product Features
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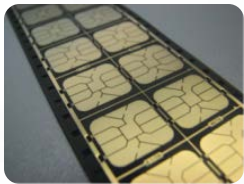
Product Overview

Product Overview

ACOS10 Series

PBOC 2.0 ED/EP Card

Contact interface
[32KB EEPROM Size]



Module



SAM card

Combi interface
[8KB EEPROM Size]



Full-Sized card

Contactless interface
[8KB EEPROM Size]



Full-Sized card



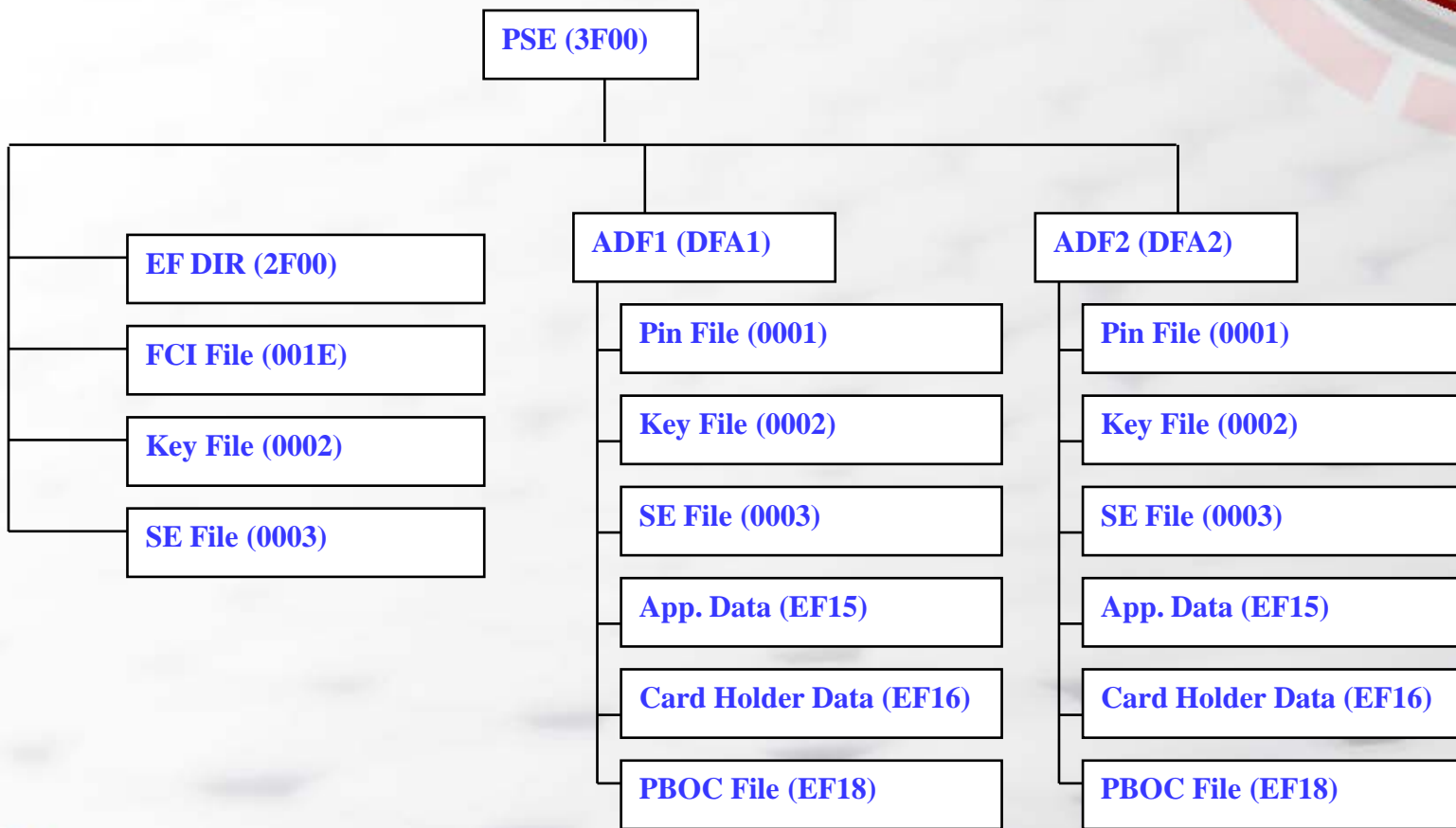
Full-Sized card



SIM-sized card



1.2 PBOC File Structure





Product Features

What are the Key Specification of ACOS10

Contact interface features:

High User Memory – 32KB

ISO 7816-1/2/3/4 Compliance

ISO-7816 8 - contact module

File Structure: Supports Linear fixed record + Linear variable record + Cyclic file + Transparent file

Protocol T=0

Mutual Authentication w/ Session Key Generation

Fast communication speed: 9,600 – 223,200 bps (switchable)



Combi interface features:

8KB User Memory

ISO 14443 1- 4 and ISO14443-A Compliance

Protocol T=CL

Data transfer rate supports:
106kbps/212kbps/424kbps/848kbps

Common features:

National Standard – PBOC 2.0
ED/EP certified

Strong Cryptographic Capabilities:
DES + 3DES + SM-MAC +
Secure Messaging SM-ENC

Multiple Applications



Secure Transactions

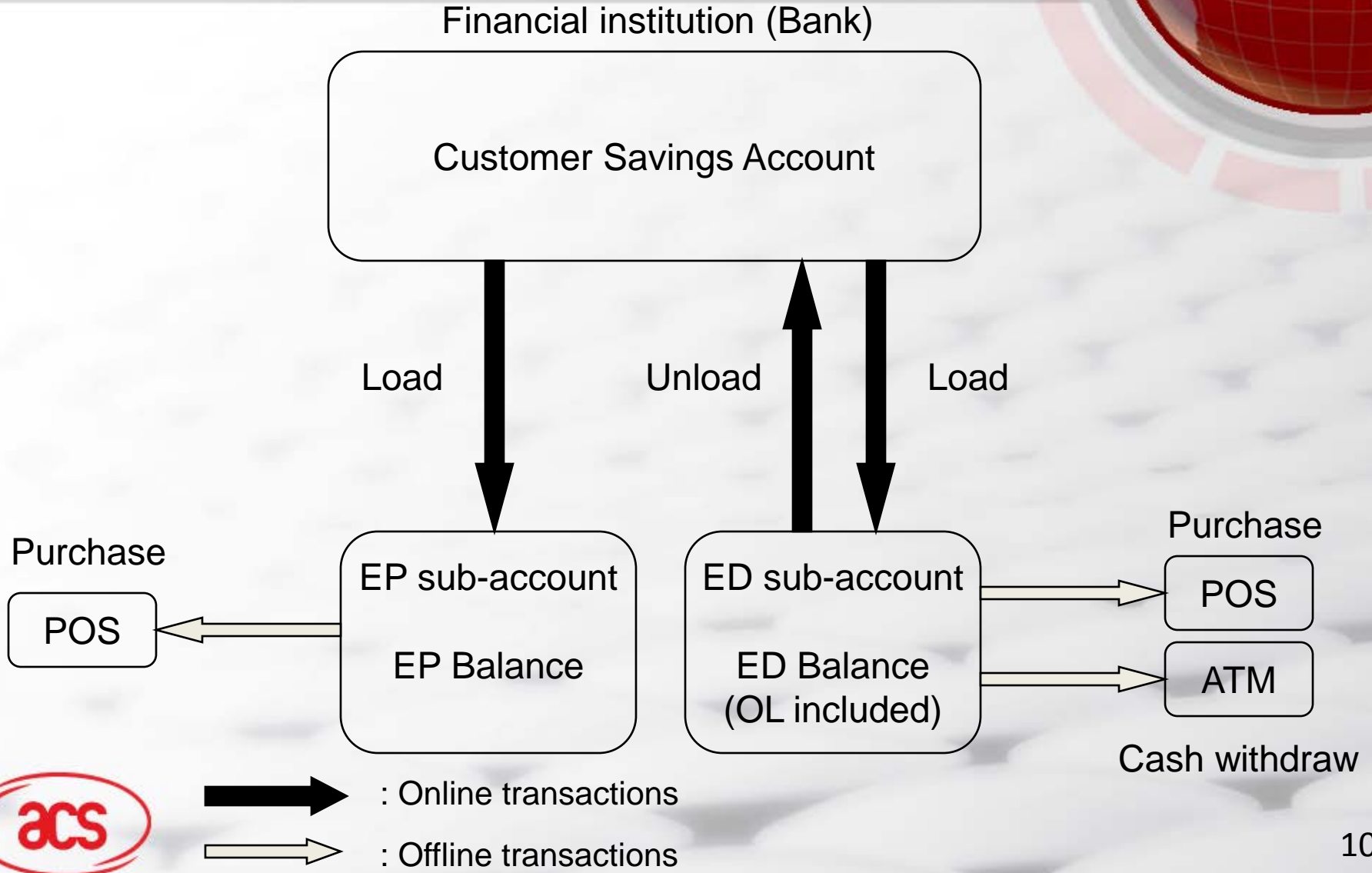
7 types of transactions



	Online/Offline	PIN verify
Purchase	Offline	No
Cash withdraw	Offline	Yes
Load	Online	Yes
Unload	Online	Yes
Update Overdraw Limit	Online	Yes
Balance inquiry	Offline	Yes
Read transaction Log	Offline	Yes

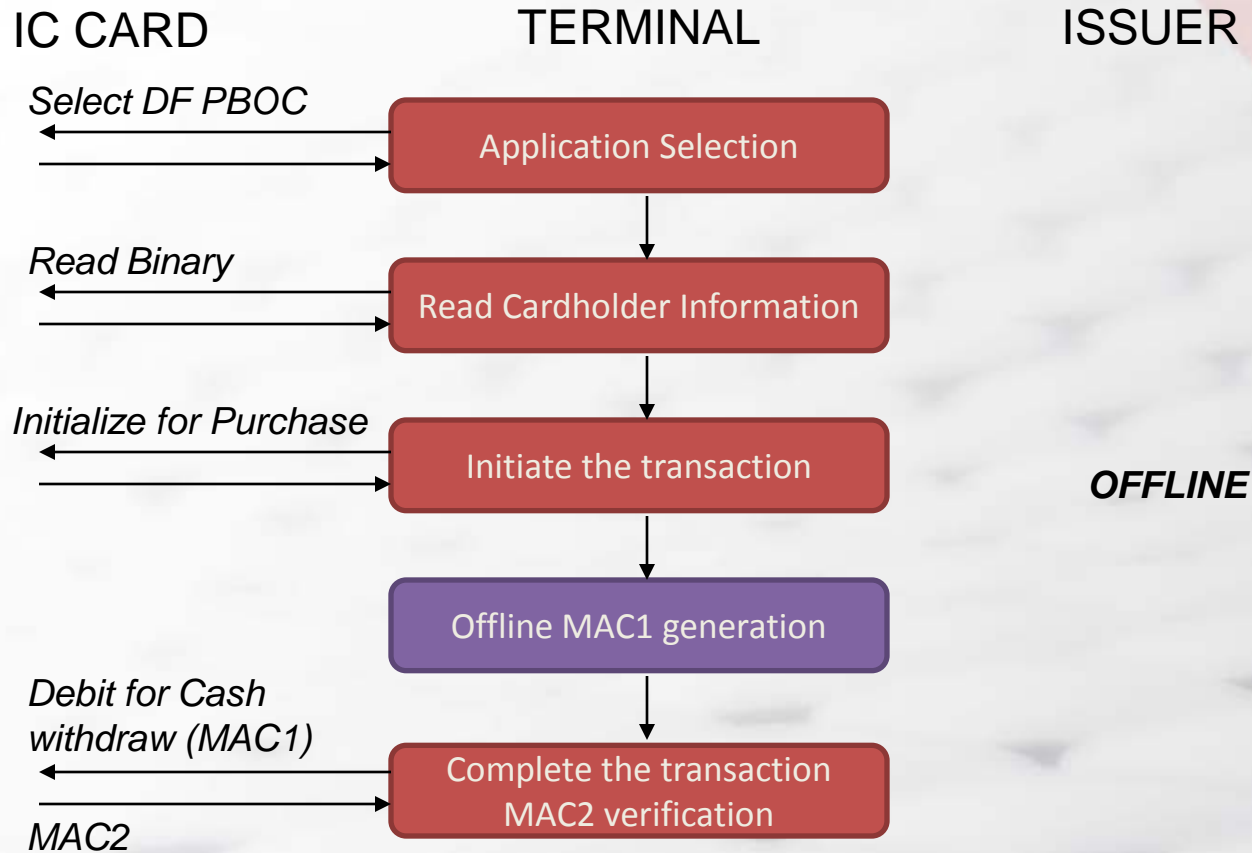


7 types of transactions



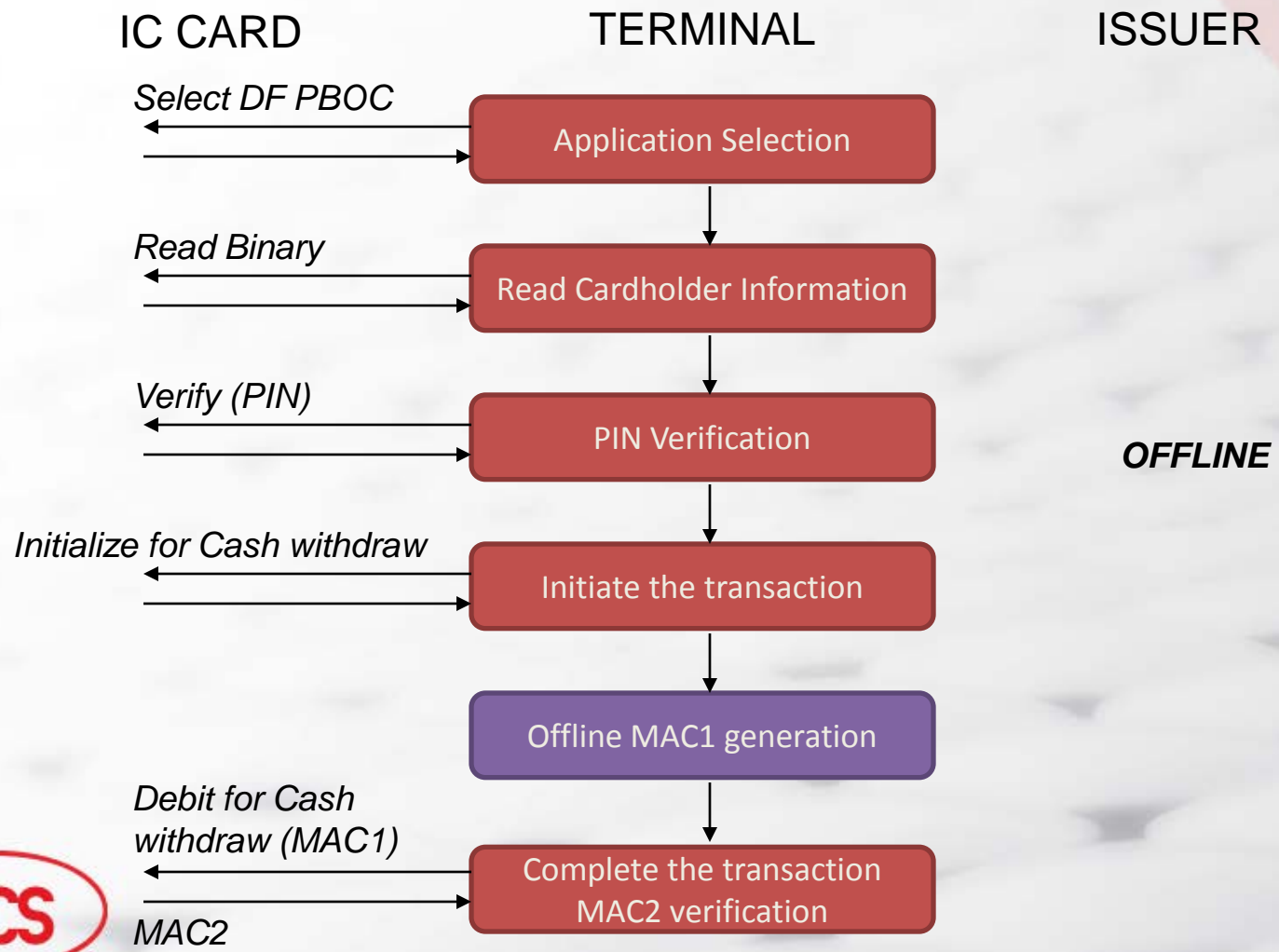
Able to do ED/EP transaction securely

Purchase Transaction (EP)



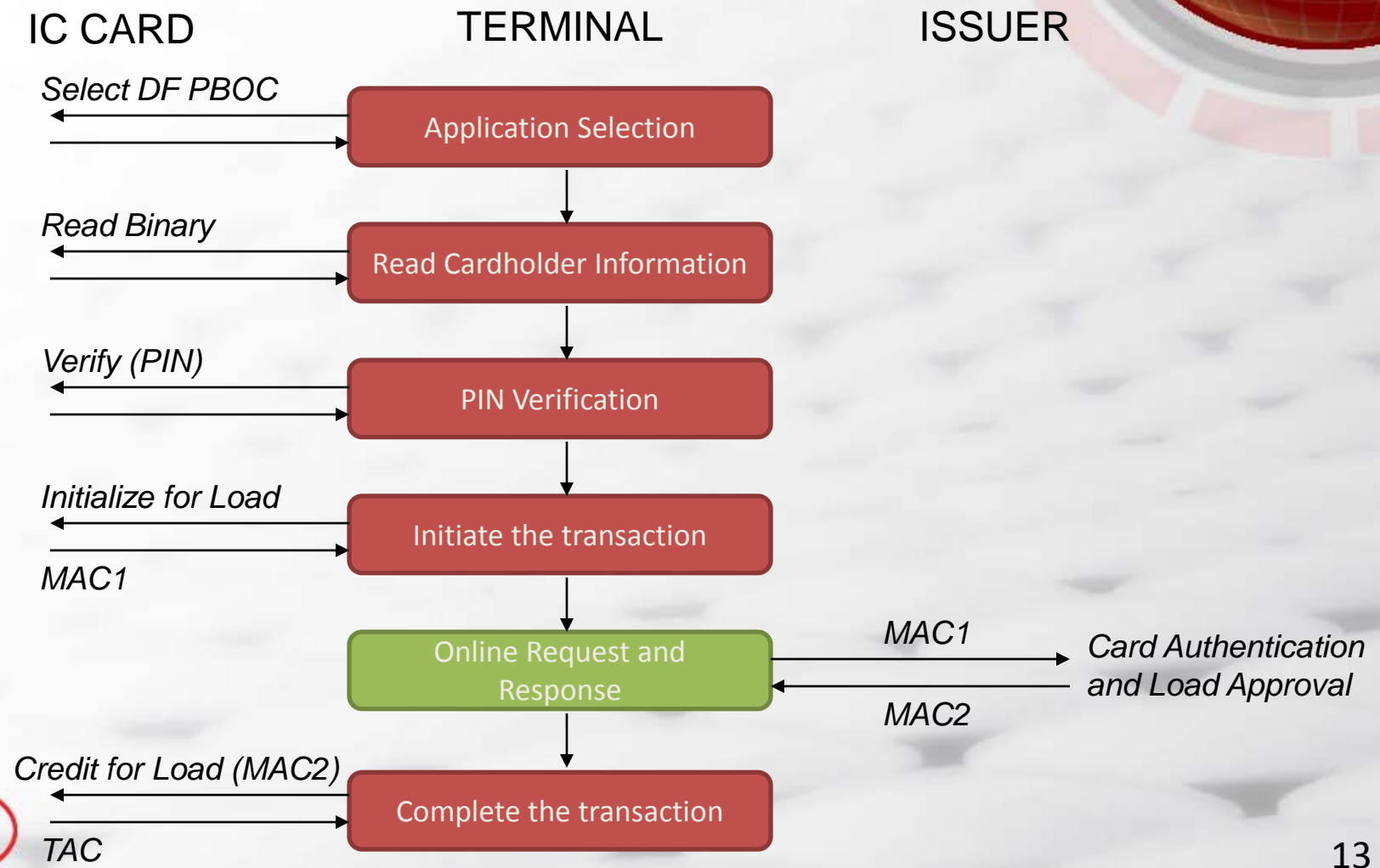
Able to do ED/EP transaction securely

Cash withdraw Transaction (ED)



Able to do ED/EP transaction securely

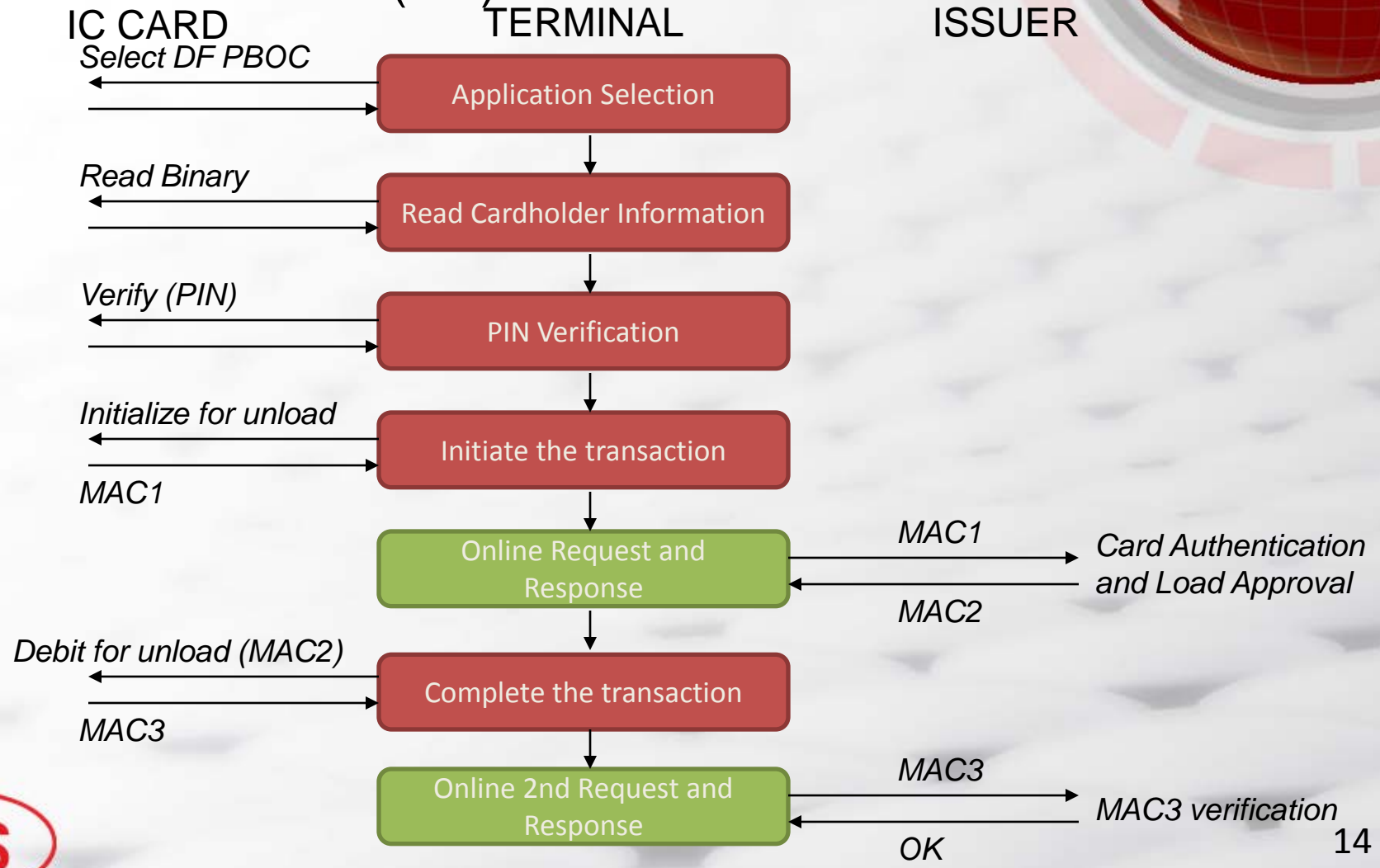
Load Transaction (ED/EP)



Able to do ED/EP transaction securely

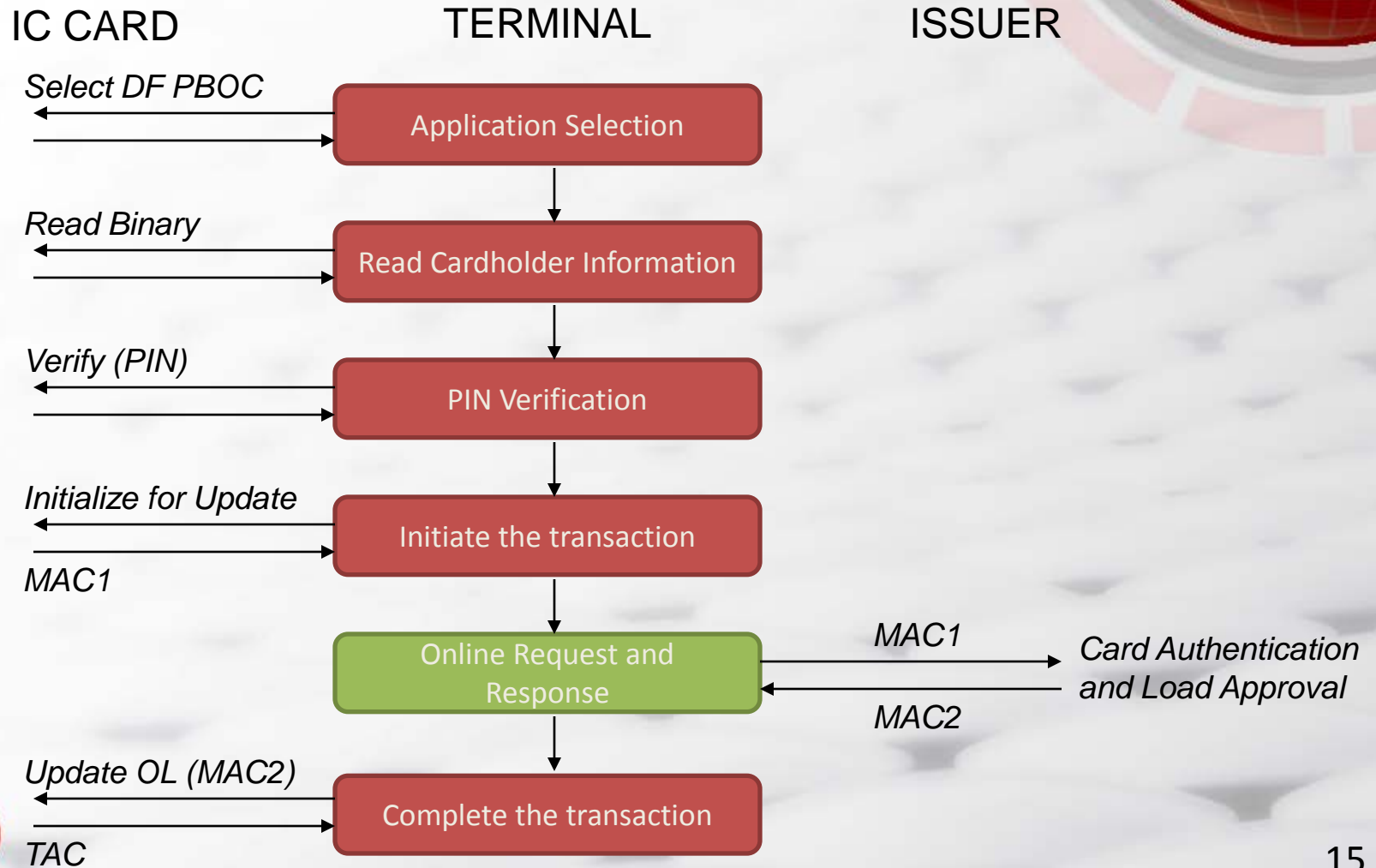


Unload Transaction (ED)



Able to do ED/EP transaction securely

Update Overdraw Limit Transaction (ED)



- Other Transaction:
 - Get Balance (ED/EP)
 - Only ED needs PIN verification
 - Read Transaction Log (ED/EP)
 - Requires PIN verification



Product Applications

In What areas can we apply ACOS10?



Banking Card



City all in 1 Card



Transportation Card



Insurance Card



Highway card



Campus Card



Petrol Card



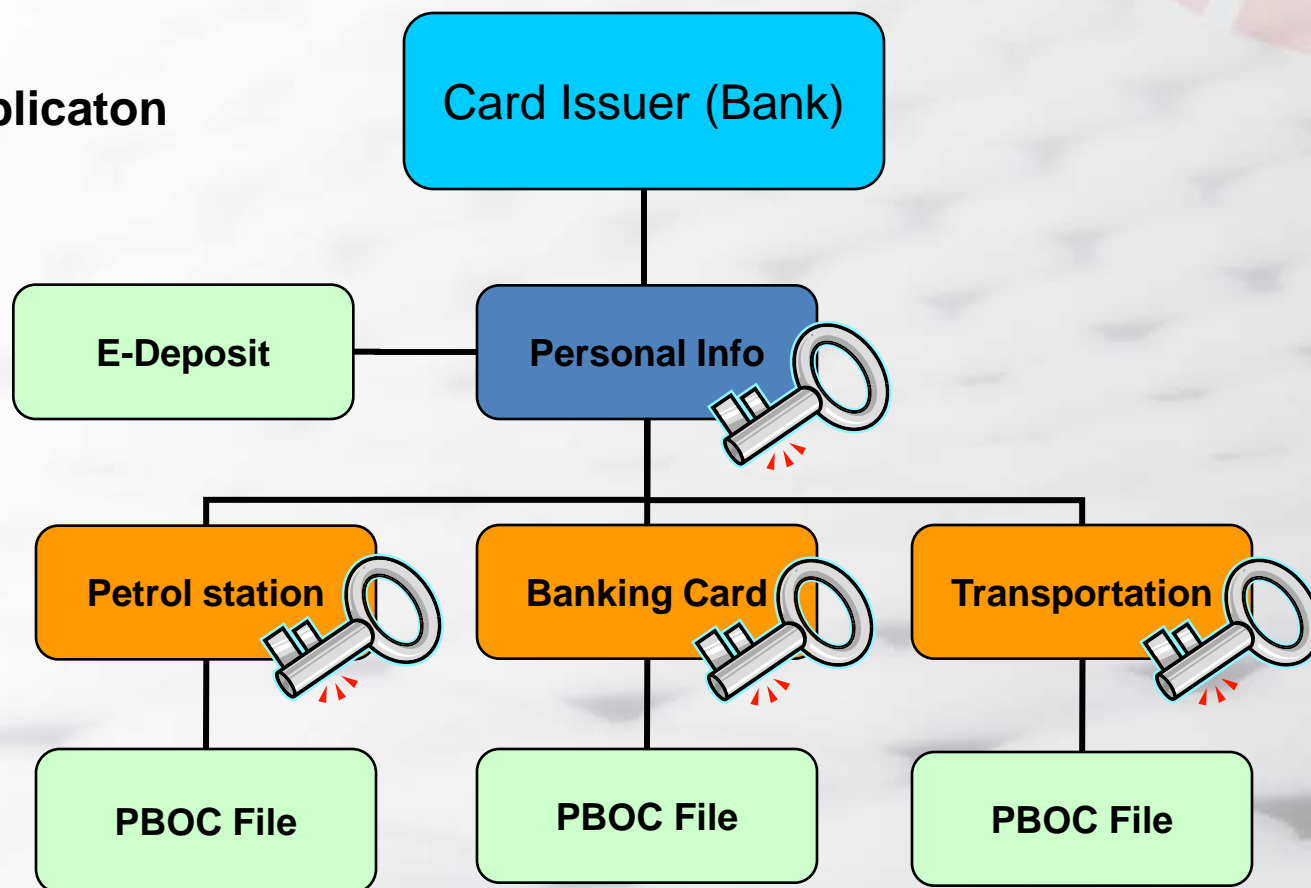
Micropayment



ACOS10 Application sample

* Every DF has a designated Security Environment (SE) file to defines the security condition of each application individually

* Multiple Applicaton





Comparison Chart

Comparison between ACOS7 and ACOS10

Category	ACOS7	ACOS10	
Product code	ACOS7-G1K	ACOS10-G1K	ACOS10-B1A
Interface	Combi*	Combi*	Contact
Size Available			
Module			✓
Full-sized card	✓	✓	✓
SIM-sized card			✓
Modules			
ISO 7816 compliant 8-contact module	✓	✓	✓
Communication Speed			
Contact Interface: 9,600 bps /14,400 bps/28,800 bps/ 115,200 bps/ 223,200 bps	✓	✓	✓
Contactless Interface: 106kbps/ 212kbps/ 424kbps/848kbps	✓	✓	✓
EEPROM			
User Memory (byte)	8K	8K	32K

Remark: ACOS7 Contactless card has the same contactless features as ACOS7 Combi card
 ACOS10 Contactless card has the same contactless features as ACOS10 Combi card



Comparison between ACOS7 and ACOS10

Category	ACOS7	ACOS10	
Product code	ACOS7-G1K	ACOS10-G1K	ACOS10-B1A
Interface	Combi*	Combi*	Contact
Protocol			
T = 0 (Contact)	✓	✓	✓
T = CL (Contactless)	✓	✓	
Standard			
ISO 7816 -1/2/3/4	✓	✓	✓
ISO 14443 – 1/2/3/4	✓	✓	
ISO 14443 Type A	✓	✓	
PBOC 2.0 E-Purse/ E-Deposit (China)		✓	✓
Ministry of Construction (China)	✓		



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 ACOS10 Contactless card has the same contactless features as ACOS10 Combi card

Comparison between ACOS7 and ACOS10

Category	ACOS7	ACOS10	
Product code	ACOS7-G1K	ACOS10-G1K	ACOS10-B1A
Interface	Combi*	Combi*	Contact
File Systems			
Directory File	✓	✓	✓
Transparent (Binary) File	✓	✓	✓
Linear Fixed Record	✓	✓	✓
Linear Variable Record	✓	✓	✓
Cyclic File	✓	✓	✓
Security Keys			
DES/3DES	✓	✓	✓
MAC	✓	✓	✓
User, Admin & Application Specified PIN Support	✓	✓	✓
Customizable PIN & Key Codes	✓	✓	✓

Remark: ACOS7 Contactless card has the same contactless features as ACOS7 Combi card
 ACOS10 Contactless card has the same contactless features as ACOS10 Combi card



Comparison between ACOS7 and ACOS10



Category	ACOS7	ACOS10	
Product code	ACOS7-G1K	ACOS10-G1K	ACOS10-B1A
Interface	Combi*	Combi*	Contact
Cryptographic Capabilities			
DES/3DES	✓	✓	✓
Secure Messaging	✓	✓	✓
FIPS140-2 compliant Random Number Generator	✓	✓	✓
Authentication (MAC)	✓	✓	✓
EEPROM Endurance			
100,000 write/erase cycles			✓
500,000 write/erase cycles	✓	✓	



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 ACOS10 Contactless card has the same contactless features as ACOS10 Combi card

Comparison between ACOS7 and ACOS10



Category	ACOS7	ACOS10	
Product code	ACOS7-G1K	ACOS10-G1K	ACOS10-B1A
Interface	Combi*	Combi*	Contact
Applications			
Payment card - E-deposit/E-purse card - Retail card - Utility supply card	✓	✓	✓
Transportation card - Petrol card - Car parking payment card	✓	✓	✓
Banking card - Insurance card - Micropayment card		✓	✓
Loyalty card	✓		



Remark: ACOS7 Contactless card has the same contactless features as ACOS7 Combi card
 ACOS10 Contactless card has the same contactless features as ACOS10 Combi card



Ordering Information

Ordering Information

Products	Description
ACOS10-B1AACSA6000	Contact PBOC 2.0 ED/EP Card with 32KB EEPROM, glossy, PVC
ACOS10-B2AACSA6000	Contact PBOC 2.0 ED/EP Card with 32KB EEPROM, plunge SIM size, glossy, PVC
ACOS10-G1KACSA6010	Combi PBOC 2.0 ED/EP Card with 8KB EEPROM, glossy, PVC
ACOS10-G1LACSA6010	Contactless PBOC 2.0 ED/EP Card with 8KB EEPROM, glossy, PVC

Thank You!!!

More information on:

<http://www.acs.com.hk/index.php?pid=product&id=ACOS10>

