GEMPLUS™

beyond smart

Doing more for multi-application programs than any other smart card

Gemplus MPCOS EMV R5 card range provides enhanced security and EMV[1] compliance along a proven product migration path.

Gemplus offers the 5th generation of the highly successful MPCOS microprocessor card, which has been in the market since 1994. This new card range was built on the need for commercial banks to switch to full EMV compliance with minimal impact on their existing infrastructure and value-added applications.
At the same time, the best security measures were implemented to safeguard against all known attacks against smart cards.

The Gemplus MPCOS multi-application card continues to enjoy industry-wide support. It provides a fast and flexible smart card application environment that is even more cost effective.

MPCOS success story

It has been adopted as the national standard for electronic purse in some countries, while being the de facto standard in others. Our customers, more than 300 worldwide, and partners choose MPCOS because it is easy to use, comes with good technical support, tools and documentation, and it is a generally well-known solution for system developers. More than 50 million cards have already been deployed worldwide.

Many possible applications

The MPCOS card permits to combine the applications below:

- Financial services: EMV debit/credit, pre-authorized debit, electronic purse, e-loyalty, on-line banking authentication

- Electronic business security: network and computer access control, digital certificate storage, secure e-commerce

- Corporate and schools: combined identification, physical access and electronic purse

- Social services: identification, health care, electronic benefit transfer

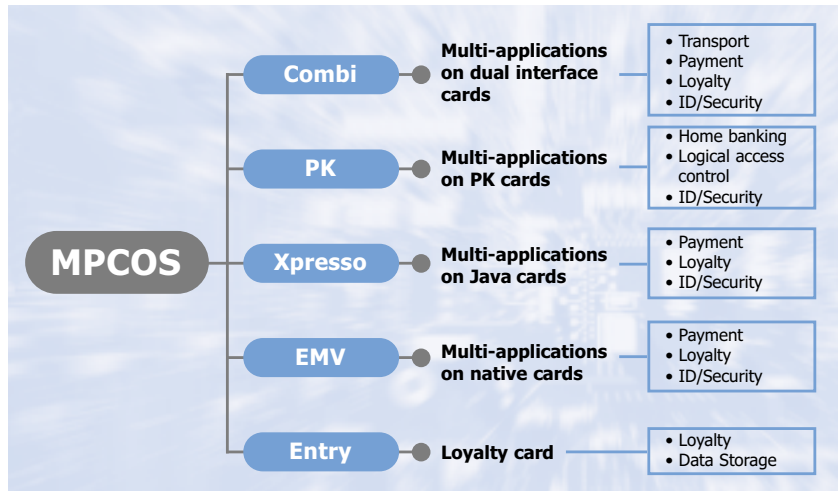- Transport: electronic road pricing, toll collection

MPCOS related products and their features

A selection of MPCOS-compatible smart card platforms are available to create new applications while capitalizing on existing ones that are already built on MPCOS.

Gemplus offers services to support application development and deployment of smart card-based programs:

- Electrical and graphical personalization

- Card packaging and mailing

- Professional consulting services

- Technical hotline support and customer training

- Partners who are able to supply off-the-shelf solutions

(1) Europay, MasterCard and Visa common specifications for chip debit/credit applications.

www.gemplus.com

	Multi-applications on dual interface cards	• Transport • Payment • Loyalty • ID/Security
Combi	Multi-applications on PK cards	• Home banking • Logical access control • ID/Security
PK		
Xpresso	Multi-applications on Java cards	• Payment • Loyalty • ID/Security
EMV	Multi-applications on native cards	• Payment • Loyalty • ID/Security
Entry	Loyalty card	• Loyalty • Data Storage

Product offer

A range of EEPROM capacities is available for data storage and application implementation.

Product	Size
MPCOS EMV R5 2000	2k
MPCOS EMV R5 4000	4k
MPCOS EMV R5 8000	8k
SAM for MPCOS EMV R5	32k

MPCOS multi-application card: secure and EMV compliant

MPCOS EMV R5 enables commercial banks to quickly and easily start to migrate their current cards to EMV standard. Utmost care was as well taken to preserve compatibility with existing multi-application features while adding new functionality. Customers of smart card solutions have also become increasingly concerned about security issues, especially for high value applications involving financial transactions.

MPCOS EMV R5 technical characteristics	
ISO 7816-1, -2, -3 compliance	• Basic communication protocol is T=0 • T=1 and T=14 protocols can be optionally activated
ISO 7816-4 compliance	• Commands, data structure (multi-application) and return codes ensuring a wide acceptance of this range by application issuers and terminal manufacturers
ISO 7816-5 compliance	• The Gemplus Registration Identifier (RID) can be implemented for the convenience of customers
Administration command set	• Enhanced command set for easy card personalization
Payment functions	• Electronic purse structure • Dedicated payment command set: debit, credit and read balance • MSI application using VSDC template 1
EMV compliance	• Level I: physical characteristics, ATR1 and Select command • Level II: full EMV transaction is supported: VSDC, M/Chip
I/O routines	• Speed can be set from 9600 to 115,200 bauds
Security features	• PIN management and verification • 3DES algorithm for authentication, secure messaging, payment certificates • Control of balance through floor limit management • Sensitive system data protection • Strong resistance against DPA and other potential security attacks
Customization features	• Default ATR, protocol and speed can be set up • Commands can be customized and new features added

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