



MULTOS & MULTOS step/one

EMV Made Easy

The Freedom to Choose

MULTOS is the only fully open smartcard platform that also gives you full control over your smartcard project. The fully defined lifecycle management means there can be multiple sourcing at every level of the supply chain and you get to choose which parts to implement. No other platform matches MULTOS when it comes to personalisation and provisioning – speed, security and no scripts or key management issues. MULTOS is the only platform designed specifically for smartcards.

The Safest Choice

Multos International's products have achieved **the highest level of security evaluation** for any smartcard operating system. MULTOS technology has been powering EMV cards for 100s of EMV issuers globally, including some of the world's biggest names in banking. Trust your brand and reputation with MULTOS.

Simplify and Value Add

The flexibility of a multi-application platform means that you can combine several different applications onto the one card, at any stage in the card lifecycle, along with the pre-loaded applications already installed on the MULTOS module. All this brings the chance to introduce value-add into any smartcard project.

Market Leading MULTOS step/one

Multos International's acclaimed product offering, MULTOS step/one, is the leading solution for entry-level EMV smartCARD programs. If you want to implement EMV SDA today, but want to keep your options open for the future, then the right choice is MULTOS step/one; an open platform approach to entry-level EMV cards – with an issuer-centric supply chain model for maximum sourcing flexibility – and at the same time allows you to rest easy in the knowledge that the future is mapped out. Over the years, MULTOS step/one has become the leading open platform solution for SDA migrations, supporting global and regional payment scheme specifications and being used by Issuers around the world.

Easy-to-use contactless technology

MULTOS, the world's leading platform for EMV, identity and data security, is available in a range of contactless and dual-interface options. Multos International has combined the renowned security and flexibility of MULTOS with the speed and convenience of contactless. Choose from a range of memory sizes from 8K to 36K, a range of formats in dual-interface, contactless-only, including new formats to address mobile payments. Various product configurations include the latest contactless EMV payment applications pre-loaded in memory.

And since this is MULTOS, you can be sure that introducing a dual-interface product on top of an existing contact card issuing system could not be easier. All the support, personalisation and manufacturing capability is standard across the range of product options.

Our experience in the contactless EMV market, developing leading solutions for all major payment schemes and working with dozens of card manufacturers globally, Multos International has a proven track record of providing support for numerous different product options, including: card format (full size/1/2 size antenna), antenna inlay options, contactless stickers and other new form-factors.

Our development expertise in contactless EMV specifications and applications allow us to offer superior technical support to our customers. In addition to an ever-expanding range of products for MasterCard PayPass (including M/Chip Advance) and Visa PayWave, we also offer contactless MULTOS solutions covering qPBOC, Amex ExpressPay, D-PAS D/I (Discover, Diners), Whitelabel contactless EMV and others. Contact us for product availability.

More applications pre-loaded with a range of the popular options to choose from including: M/Chip Advance, M/Chip4, D-PAS, VSDC, PBOC, whitelabel EMV, loyalty and regional applications for Brazil, Korea, Taiwan and Malaysia and more.

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Features

Security and Performance

MULTOS platforms are the most secure in the industry. The new range of products include the latest advanced security features, without compromising performance. That's because unlike any other platform, MULTOS was designed from the ground-up as an efficient, secure operating system for smartcard chips. With Global PIN management support, the platform is suited to multi-application environments.

Personalisation and Provisioning

The processes for preparing and loading an application onto a MULTOS card are unique and designed to allow personalisation bureau operations the most flexibility for supply chain (easily manage multiple card suppliers) and most efficiency (provision any application, any product, any channel without affecting the perso systems).

Applications

- » Multos International has included a selection of latest popular applications pre-loaded in memory. This saves valuable EEPROM memory and reduces personalisation time and cost.
- » Use existing MULTOS applications or develop new ones using the same development tools (applications can be developed in low-level MEL, or industry-standard 'C' or Java).
- » The MULTOS scheme provides the issuer with full control over the applications resident on the card.

Interapplication Communications

- » The delegation functionality enables an application to delegate commands to other applications, increasing the the efficiency of MULTOS applications by removing the need to duplicate common functionality within each separate application.

Efficient Memory Use

- » A number of choices for EEPROM size provides space for additional applications (code and data) with the most cost effective solution for your needs.
- » MULTOS applications are renowned as being the most efficient in the industry allowing you to choose the best size platform for your needs and reducing your costs.

Technical Specifications

MULTOS step/one		MULTOS	
SC4	MC4	ML4	
Target Markets			
Banking/EMV SDA Contact only	Banking/EMV DDA Contact only	Banking/EMV DDA Dual Interface	
Memory (EEPROM)*			
8K to 36K	8K to 36K	12K to 36K	
Applications pre-loaded			
MasterCard M/Chip Advance, Visa VSDC, Discover/Diners D-PAS, PBOC, Whitelable EMV	MasterCard M/Chip Advance, Mobile PayPass, Visa VSDC/qVSDC, Amex AEIPS/ExpressPay, Discover/Diners D-PAS, Interac Flash, PBOC/qPBOC, MEPS PMPC, Whitelable EMV		
Cryptography capabilities			
Message Digest/Hash: SHA-1	Asymmetric: RSA(512–2048 bits)		
Symmetric: DES, 3DES, AES, SEED (ECB/CBC modes of operation supported for all)	Message Digest/Hash: SHA-1/224/256		
	Symmetric: DES, 3DES, AES, SEED (ECB/CBC modes of operation supported for all)		
Standards/Protocols			
ISO7816-3, Transmission protocol supported: T=0, T=1, PPS speed: Up to 447 kbps	ISO7816-3, Transmission protocol: T=0, T=1, PPS speed: Up to 447 kbps		
	ISO14443 Type A or B, MIFARE 1K/4K, Double/Single UID PPS speed up to: 848kbps		
<i>Notes: Specifications and functionality may change please check for availability * Check for available configuration options</i>			

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