



*The Easy Way
to EMV*

MULTOS step/one

On 4K and 8K

The EASY Choice

Multos International's acclaimed product offering, MULTOS step/one, responds to demand for an entry-level EMV smartcard that has a seamless upgrade to multi-application, high security EMV transactions. Now issuers can access a smartcard platform family that provides the highest return on investment for EMV smartcards — **MULTOS step/one for SDA** (Static Data Authentication) with **easy upgrade to MULTOS for DDA** (Dynamic Data Authentication) or CDA (Combined Dynamic Data Authentication).

A STRATEGIC Approach

With so many card options for EMV migration on the market, making the right decision can be tough. MULTOS step/one becomes the strategic answer to the mixed EMV approach. If you want to implement SDA today, but want to keep your options open for the future, then the right choice is MULTOS step/one.

From a Proven FAMILY

Multos International is a leading supplier of smartcard solutions, with a range of MULTOS products available for DDA EMV and multiple dynamically loaded applications. MULTOS step/one has

been developed to capture many of the MULTOS features, including application firewalls, but at the **lowest possible cost**.

- Compatible with MULTOS applications — choose from a range of off-the-shelf applications.
- Application development using the standard MULTOS development environment (MEL, C, or Java).
- Personalisation is simplified with MULTOS compatibility.
- Choose from a number of vendors across the entire supply chain — including card manufacturer.
- Choose standard EMV entry product, or custom applications.

Low Cost, Greater FLEXIBILITY

MULTOS step/one offers the flexibility of choice — Multos International will work with you to include applications in each MULTOS step/one mask release. In addition, you can be assured of supply because MULTOS step/one will be offered on a range of silicon platforms and through a number of card manufacturers.

MULTOS step/one is 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.

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Features

Family Compatibility with MULTOS Version 4

MULTOS is considered the platform of choice for secure DDA EMV smartcard operating systems. MULTOS step/one provides compatibility with MULTOS applications (without RSA cryptographic functions) and MULTOS personalisation commands.

Applications Pre-loaded

Multos International has combined MULTOS step/one with the most popular EMV applications on the market. Depending on available memory space, additional applications may also be included in the pre-loaded mask. This saves EEPROM memory and reduces personalisation times, to allow the lowest possible cost to market.

Cryptographic Capabilities

- Signature generation (CBC single/triple DES)
- Encryption/decryption (ECB single/triple DES)

Applications

New applications can be developed using the same MULTOS tools currently available — use 'C', Java, or MEL to develop MULTOS step/one applications. Alternatively, dozens of off-the-shelf applications are available from a number of application providers. Choose from EMV, loyalty, health, biometrics and many others.

Customer Choice for Mask

The card issuer can choose a dedicated mask containing the particular mix to best meet market requirements.

Fast Personalisation

Multos International's family of MULTOS step/one products ensures the lowest total cost due to extremely fast data preparation and personalisation. A typical EMV application can be loaded in around 3 seconds, thanks to a low OS overhead and efficient MULTOS application packages.

Technical Specifications

CPU

Infineon SLE66C44PE/84PE
2.7-5.5V operation
CC EAL5+
Clock speed: up to 7.5 MHz (ext.); 33MHz (int.)
Anti-snooping mechanisms in hardware: active shields, true random number generator, counter measures against SEMA/DEMA SPA/DPA DFA and timing attacks

Applications

APIs supported: MEL v4.2
M/Chip4
VSDC
XLS (Welcome Real Time)
PocketServer
Cardis

Input/Output

Protocols: T=0, T=1; PPS
Speed: up to 223 kbit/s

Memory

Total EEPROM: 4K or 8K

Development Tools

MEL (low-level language)
C
Java

The MULTOS step/one specification is an entry-level multi-application operating system, based on MULTOS, but targeted at financial card Issuers who do not presently wish to incorporate DDA capabilities into their EMV portfolios. This new operating system exploits the security, flexibility and software interoperability of the original MULTOS platform. Multos International's implementation of MULTOS step/one is the first of its kind. Multos International has a number of products certified by MasterCard and Visa.

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