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# Multos Data Preparation - Payment and ID Applications

## Using Cryptomathic CardInk



**Celebrating 10 Years of MULTOS**  
on 4th March 2008, London



**MULTOS**<sup>™</sup>

# About Cryptomathic

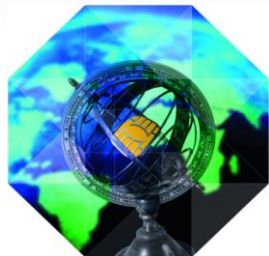
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## ▪ **Founded 1986**

- Started as a consulting company with cryptographic toolboxes
- Started developing products about 10 years ago
  - Today we are a SW company with security solutions worldwide
- Innovation beyond competition
  - Nominated at the World Economic Forum in Davos 2003 as one of the 40 most innovative companies in the world
- Our focus
  - Security
  - User friendly solutions
  - Scalability
  - Reliability
- Our Footprint
  - Cambridge, England – Head Quarters
  - Aarhus, Denmark – R&D
  - Munich, Germany – Pre-Sales & technical specialists
  - Montreal, Canada - Pre-Sales, technical specialists

# Cryptomathic Core Products

EMV Data  
Preparation



PKI / Trust



Digital  
Signatures



Key  
Management  
System



Two-factor  
Authentication



Crypto tools



# CardInk - Multos Data Preparation

Prepare cardholder and bank data to write onto a specified card for a specific cardholder.

## Data generation

- Card embossing data
- Magnetic stripe data
- Chip data
- Profile Driven
- CU Tool support
- ALU generation

## CardInk



## Key management

- Issuer key certification
- Signature signing (SDA)
- Key generation (DDA)
- PVV, CVC, CVV, CSC, PIN

# CardInk - Multos Data Preparation

## MasterCard

- M/Chip Lite
- **M/Chip Select**
- Mag stripe & PIN
- **PayPass**
- CAP (for 2FA)



## Visa

- **VSDC for SDA**
- **VSDC for DDA**
- Mag stripe & PIN
- qVSDC & MSD
- DPA (for 2FA)



# Other Card Applications Supported

## AmEx

- AEIPS for SDA
- AEIPS for DDA
- Mag stripe & PIN

## BMS

- Moneo

## SAMA

- SPAN2

## Interac

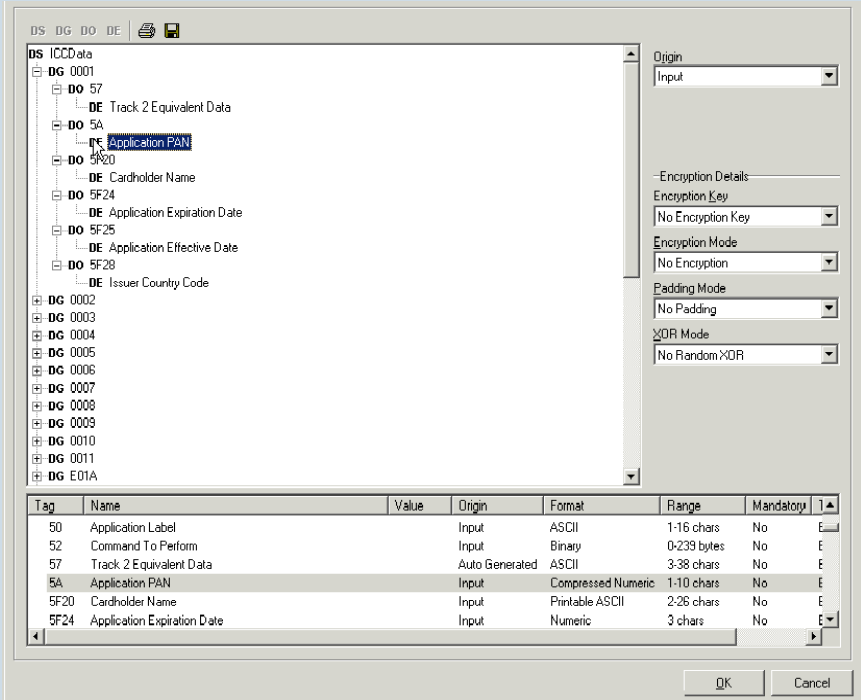
- Interac

## SIA

- Bancomat

## Application Editor:

- Develop new applications
- Edit existing applications



Tag	Name	Value	Origin	Format	Range	Mandatory
50	Application Label		Input	ASCII	1-16 chars	No
52	Command To Perform		Input	Binary	0-233 bytes	No
57	Track 2 Equivalent Data		Auto Generated	ASCII	3-38 chars	No
5A	Application PAN		Input	Compressed Numeric	1-10 chars	No
5F20	Cardholder Name		Input	Printable ASCII	2-26 chars	No
5F24	Application Expiration Date		Input	Numeric	3 chars	No

# Cryptomathic / Multos History

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- **2001 – Multi-Application CMS development**
- **Q1 2004 – M/Chip 4 Select**
  - Using KTU'
- **Q2 2006 – VSDC on Multos**
  - ALU defined by KeyCorp
  - Arab National Bank
- **Q1 2007 – M/Chip 4 and VSDC on Multos**
  - Leigh Mardon
- **Q4 2007 – MICA/MACU**
  - TRÜB

# Cryptomathic / Multos History

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- **Q1 2008 – Multos Step/One**
  - M/Chip 4
  - VSDC
  - MICA/MACU
  - FDI LAC (Multiple Clients in Canada)
  
- **Q1 2008 – CU Tool Integration**
  - MICA/MACU including PayPass
  - VSDC
  - All Clients
  
- **Future ?**
  - AMEX on Multos
  - Mobile Applications
  - PKI for ID and Access Control