How to deploy value added applications in smart cards without updating terminals ?

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Jerome Ajdenbaum
Iteon

About Iteon

- Consulting
  - Technical
  - Marketing
  - Strategy
- Innovation
  - Chip Secure Extensions
  - Project Robin
- Software
  - MasterCard M/Chip 4 applet

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How to deploy value added applications in smart cards without updating terminals ?

The complexity of smart card applications deployment

- ■ Smart card application = software on terminals
  1. Develop software for each platform
  2. Install the software on ALL terminals

Robin objectives

- ■ Any smart card application can be accepted on any terminal without the need for specific terminal application software
- ■ Any terminals
  - ◆ POS terminals, ATMs, PCs, set top boxes, personal readers, etc.
  - ◆ Any manufacturer
  - ◆ Anywhere

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How this achieved

- Robin allows <u>a smart card</u> to contain the <u>application software</u> that will allow <u>a terminal</u> to work with it.
- Because the card <u>itself</u> contains the terminal software, it will work on <u>any terminal</u>.
- This removes the problem of deploying applications on terminals

Before Robin technology

Application software

Read Miles earned

Add 10 Miles

Print
"You have just earned 10 miles.
Your new balance is 1800 miles."

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With Robin technology

Application software
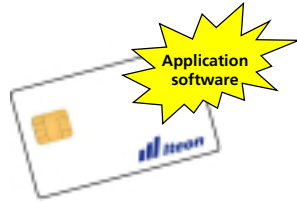
Add 10 Miles

PRINT DOCUMENT
"You have just earned 10 miles.
Your new balance is 1800 miles."

Print
You have just earned 10 miles.
Your new balance is 1800 miles.

Technical overview

- Full protocol
    - Preserve backward compatibility
    - Adaptative processing
    - Fully based on standards (ISO 7816 -3, -4, -9)
    - Very simple
- 29 card-originated byte strings (proactive commands)
    - User interface management
    - Processing blocks
    - Card reader management
    - Communication with distant resources
- Interrupts management

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Adaptative processing
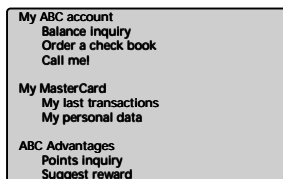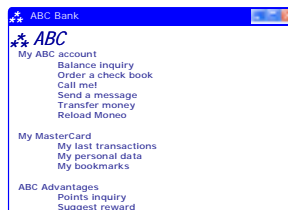
What is needed ?

- Works with standard, existing cards
  - From low-end 2/4/8 kBytes static cards
  - To high-end 32/64/128 kBytes Java Cards or Multos

- On terminals, an extension to smart card drivers is needed to support the protocol (ISO 7816-9)

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Sample applications

- Issuer CRM
    - Increase the relationship with the cardholder
    - Increase customer information (based on location, merchant activity, etc.) by displaying/printing messages at the point of sale
        - Why a payment is denied
        - Account balance, last transactions
        - Information when abroad
        - New products, special offers
    - Offer new services to customers
    - Migrate existing marketing programs to instant interaction
    - Offer home banking, internet services

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Sample applications

- No limit to the applications can be built using Robin technology but imagination
- Loyalty programs
    - Great for co-branding, affinity,
    - Removes all limits
- Generic card management
    - Update rights (health, ID, etc.)
    - Reload a purse
- Anyone can be an issuer
    - even merchants…
    - No need for critical mass

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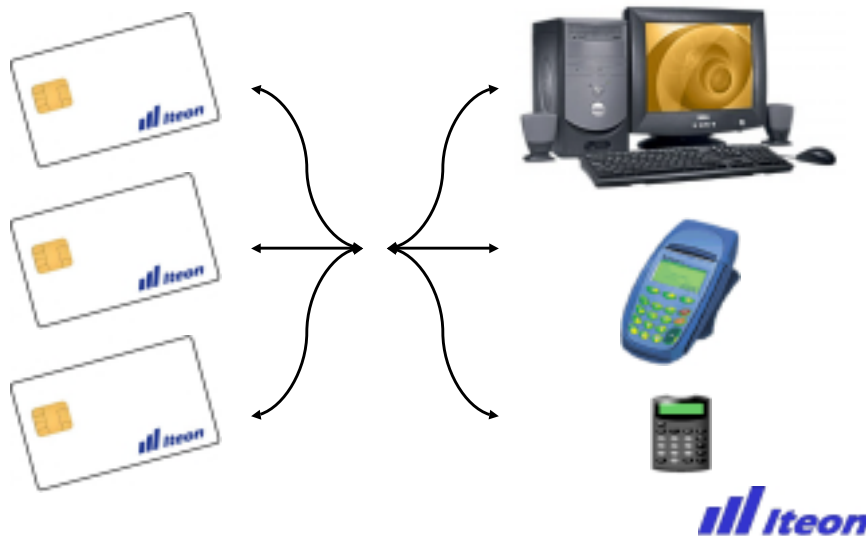## Who will benefit ?

- All parties benefit from Robin technology
  - Cardholders
  - Issuers
  - Card manufacturers
  - Application providers
  - Payment schemes
  - Processors
  - Merchants
  - Terminal manufacturers

Demonstration

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Next steps

- ■ What has been achieved so far
  - ◆ An innovation developed and patented by Iteon
  - ◆ Licenses available
  - ◆ R&D project partially funded by the ANVAR
- ■ Next step
  - ◆ Creation of a workgroup to comment the specifications and publish first stable release
    - • Target : March 2004
  - ◆ All interested party invited to join the workgroup

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Thank you for your attention

To get a copy of this presentation and a white paper on Robin technology: www.iteon.net

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