

Prox'N'Roll

a SpringCard 2008 device



Agenda

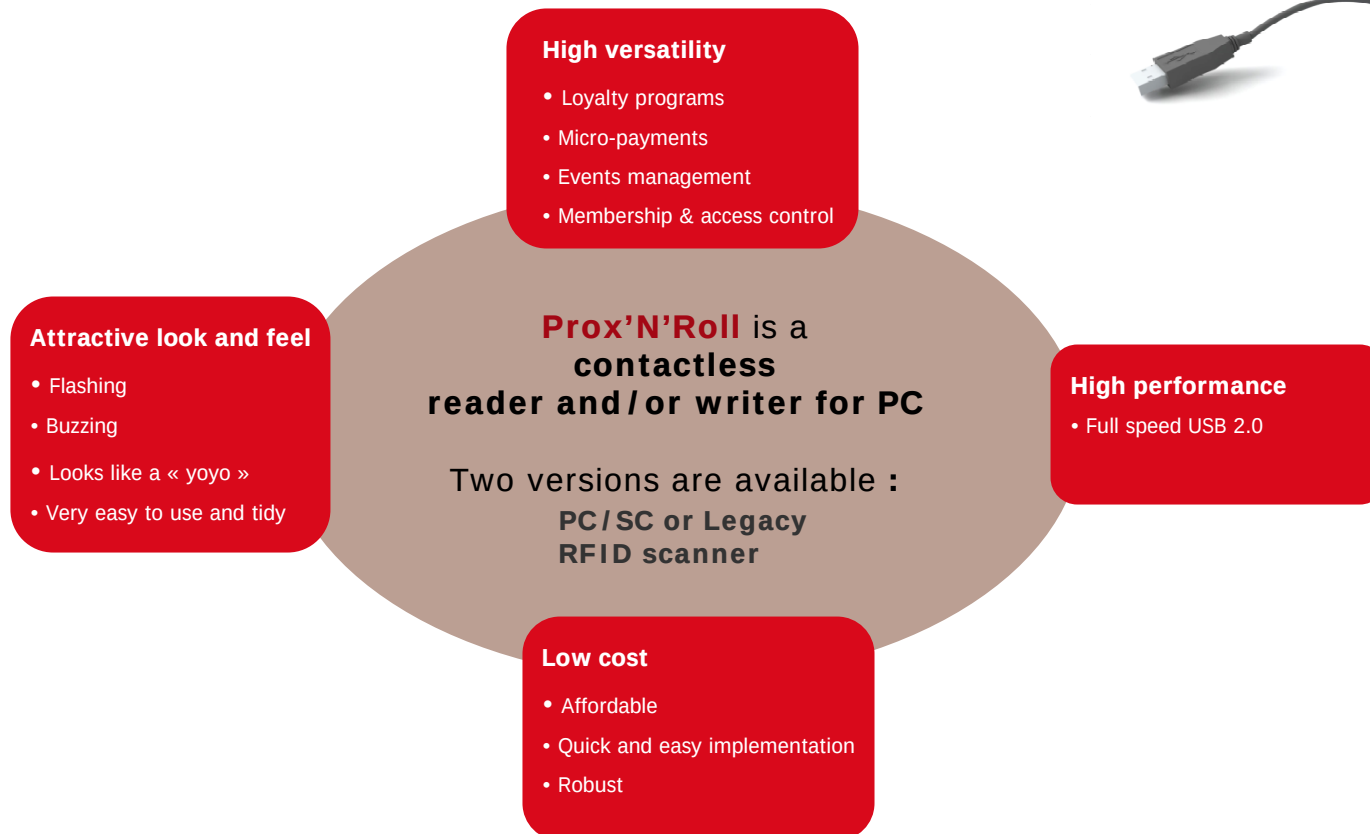
- Product overview
- Prox'N'Roll PC/SC or Legacy
- Prox'N'Roll RFID Scanner
- Demo time !
- Appendix 1 : Security issue. How to secure the reader configuration?
- Appendix 2 : Creating master cards





Product overview

Prox'N'Roll assets



Prox'N'Roll versions

About the two versions available :



Version 1 : PC/SC mode or Legacy mode

- Contactless smartcard reader/writer (13.56MHz range)
- **PC/SC mode** : standard USB CCID standard (Windows2000, XP, Vista, Linux)
- **Legacy mode** : USB virtual serial comm. Port (Windows, Windows CE, Linux)

Version 2 : RFID scanner

- Contactless smartcard reader (13.56MHz)
- USB HID Class : keyboard emulator that reads the card and writes its serial number on any text editor
- Any other information than the serial number can be retrieved by « flashing » the Prox'N'Roll with a Master Smartcard



Prox'N'Roll

PC / SC or Legacy modes

Product scope



Prox'N'Roll (Pc/SC or Legacy) :

- Is a whole-featured versatile, affordable, robust **contactless smartcard reader/writer** (13.56MHz range)
- Supports **USB 2.0 full speed** (12Mbps), and fastest smartcard baud rate (**848kbps**)
- Handles **any ISO 14443 (type A, B and B')** and **ISO 15693** compliant smartcards or tags

Supported contactless cards/tags

- **NXP (Philips) : ICODE1, ICODE-SLI, Mifare Classic and UltraLight, Desfire, ProX, SmartMX,**
- **Texas Instrument : TagIT,**
- **ST MicroElectronics : SR176, SRiX, LRI etc**
- **ASK CTS256B and CTS512B,**
- **HID iClass and Inside PicoTag (serial number only),**
- **MultOS or JavaCard T=CL cards,**
- **Calypso transportation cards,**
- **NFC mobile phones or other NFC-capable objects (tag emulation mode)**

PC/SC mode and Legacy mode



PC/SC mode

Prox'N'Roll PC/SC is compliant with the standardized smartcard reader API called PC/SC that allows developers to work with contactless cards (including Mifare and other wired-logic chips) as easily as if they were classical T=0 or T=1 contact cards.

Interoperability of applications and readers.

Legacy mode

Prox'N'Roll Legacy is 100% compliant with earlier **SpringCard** products, such as the popular CSB4 Mifare reader/writer. A smooth migration is possible without changing anything in existing software.

Optimized communication

How to use Prox'N'Roll PC/SC on Windows?



Examples of application

- Loyalty programs,
- Micro-payment,
- Card issuing desk,
- User identification,
- and more

Procedure

- 1 /** Plug in your Prox'N'Roll
- 2 /** Install the Microsoft driver :
USB smartcard reader
- 3 /** Launch your PC/SC application or an example of application * provided by SpringCard :

**Your Prox'N'Roll PC/SC device is ready-to-use.
You can present a card to the reader/writer!!**

*** All the softwares download link :**
<http://www.springcard.com/download/proxnroll.html>

How to use Prox'N'Roll Legacy ?



Examples of application

- Loyalty programs,
- Micro-payment,
- Card issuing desk,
- User identification,
- and more

Procedure

- 1 /** Download* and install the PC/SC and/or Legacy driver
- 2 /** Plug in your Prox'N'Roll
- 3 /** Configure your Prox'N'Roll into Legacy mode if you want (default is PC/SC) : download* and install the configuration tool
- 4 /** Launch your application or an example of application* provided by SpringCard :

Your Prox'N'Roll PC/SC or Legacy device is ready-to-use. You can present a card to the reader/writer!!

* All the softwares download link :

<http://www.springcard.com/download/proxnroll.html>



Prox'N'Roll RFID scanner version

Product scope



Prox'N'Roll RFID scanner :

- Contactless reader device emulating keyboard entries : displays instantaneously smartcard serial numbers on any text editor!
- **ZERO installation** : completely autonomous!!!
- Handles any **ISO 14443 (type A, B and B')** or **ISO 15693** compliant smartcards/tags!

Supported contactless cards / tags

- **NXP (Philips) : ICODE1, ICODE-SLI, Mifare Classic and UltraLight, Desfire, ProX, SmartMX,**
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How to use Prox'N'Roll RFID scanner?



Procedure

- 1 / Plug in your Prox'N'Roll RFID Scanner
- 2 / Open a text editor

Your Prox'N'Roll device is ready-to-use.
You can present the card you want to read to the scanner!!!

Examples of application

- Identify and authenticate cards/tags
- Manage events by monitoring/identifying attendees
- Replace bar codes/manual data entry for **fast inventories**

Example : How to read a name?



Example1

- Card type : Mifare
- Target data location : sector 1 block 0
- Size : 16 bytes
- AZERTY keyboard

User 2:

« Lysa »

User 1:

« Mary »



Example2

- Card type : Desfire 4k
- AID : XXX
- File identifier : xxx
- Offset : xxx
- Length : xxx bytes
- Size : 32 bytes
- Authentication key : xxxx
- Algorithm : HMAC-MD5
- Azerty keyboard

Creating master card : Reading user names on Mifare and Desfire 4k cards

Master card configuration

The Desfire 4k is now configured
as a master card !!!



Master card with
config info

Config info

For Mifare cards :

- Target data location : sector 1, block 0
- Size : 16 bytes
- Azerty keyboard

For Desfire 4k cards :

- AID : XXX
- File identifier : xxx
- Offset : xxx
- Length : xxx bytes
- Size : 32 bytes
- Authentication key : xxxx
- Algorithm : HMAC-MD5
- Azerty keyboard

Download and install configuration tool on the page :
<http://www.springcard.com/download/proxnroll.html>

Prox'N'Roll RFID scanner configuration

Configuring Prox'N'Roll RFID scanner



Master card with
config info



Reader is configured and reads
names in Mifare and Desfire 4k cards



User 2:
« Lysa »

User 1:
« Mary »



Prox'N'Roll supports 4 different templates!!



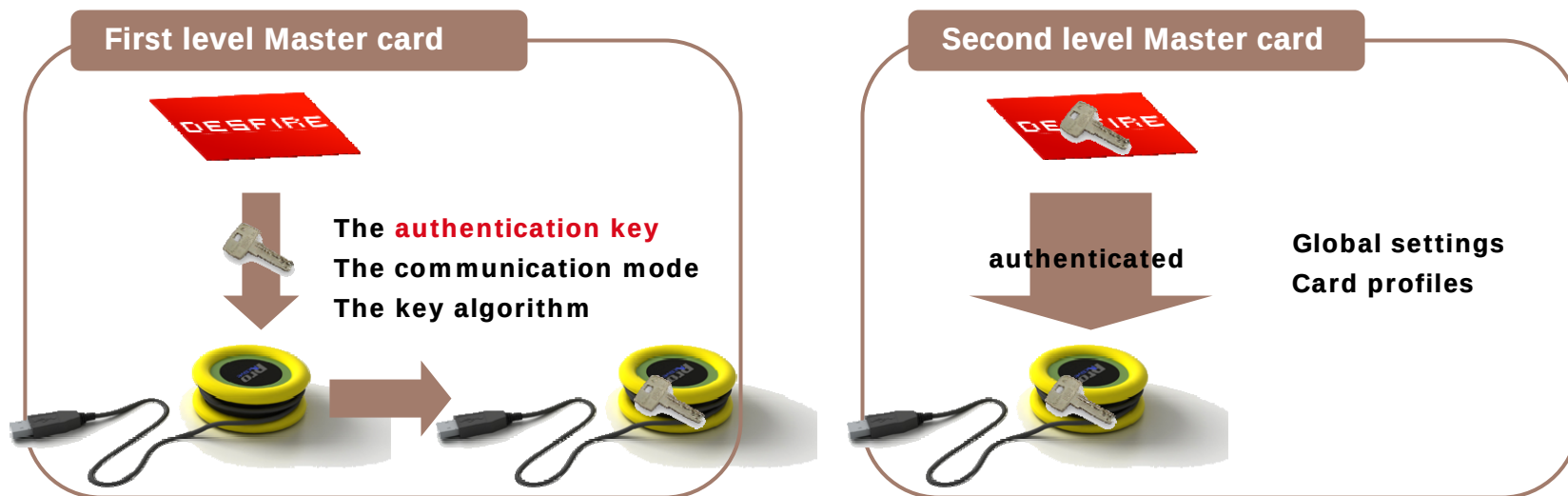
Prox'N'Roll Demo time !

- QuickStart applications : PCSC Diag, MifareTool
- Epassport reading : Golden Reader
- How to configure the RFID scanner to read other data than the serial number of the card

Appendix 1 : Security issue

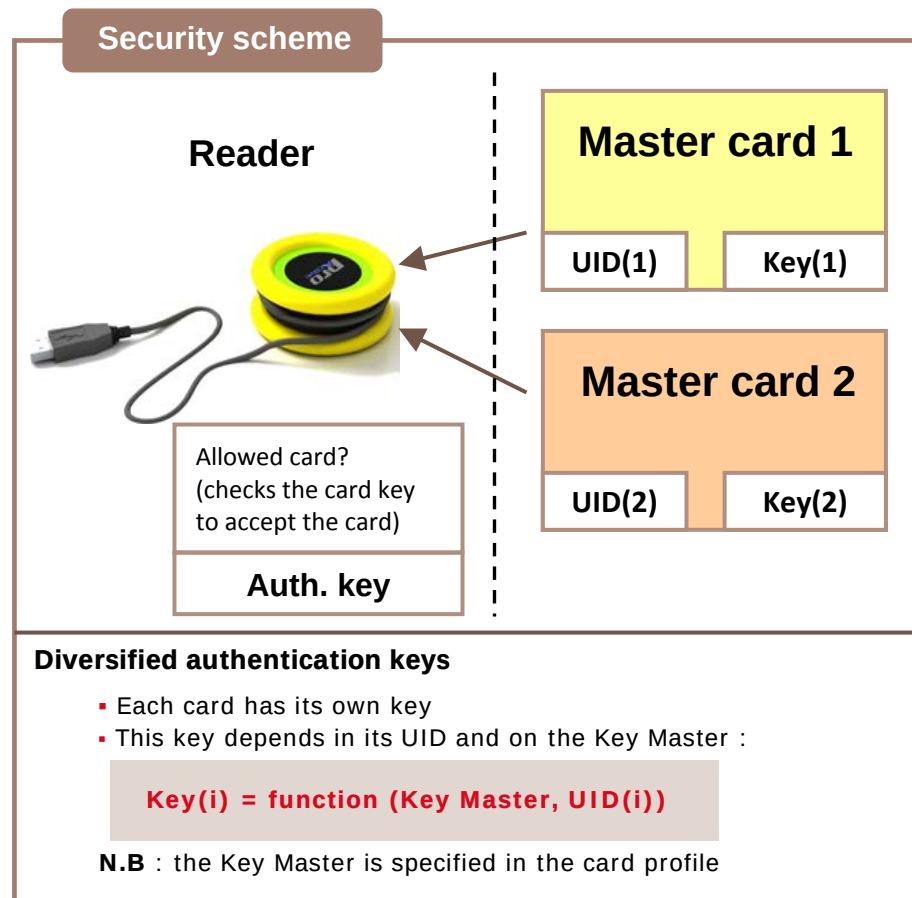
How to secure the reader configuration?

- In fact, there are different kinds of master cards :
 - First level Master card
 - Second level Master card
 - Erase Master card



Appendix 1 (cont.): Security issue

How to secure the reader configuration?



Appendix 2 : Creating master card

Configuration file creation :

Master card creation :
Prox'N'Roll PC/SC

The Desfire is now configured



Master card
configuration tool

Configuration file :
MyConfig.ini

- Download [sq844p-da.exe](http://www.springcard.com/download/proxnroll.html) on the page :
<http://www.springcard.com/download/proxnroll.html>
- Install the configuration tool



Command
line
shell

Desfire 4k

Configuration
information

Master card with
config info

Mifare cards

- Target data (name) location : sector 1, block 0
- Size : 32 bytes
- AZERTY keyboard

Desfire 4k cards

- Target data location : XXXXX
- Size : XXXXX
- AZERTY Keyboard

C:\Program Files\SpringCard\SQ844P>cfgfilecreator.exe -c MyConfig.ini

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