

Prox'N'Roll

a SpringCard 2008 device



Agenda

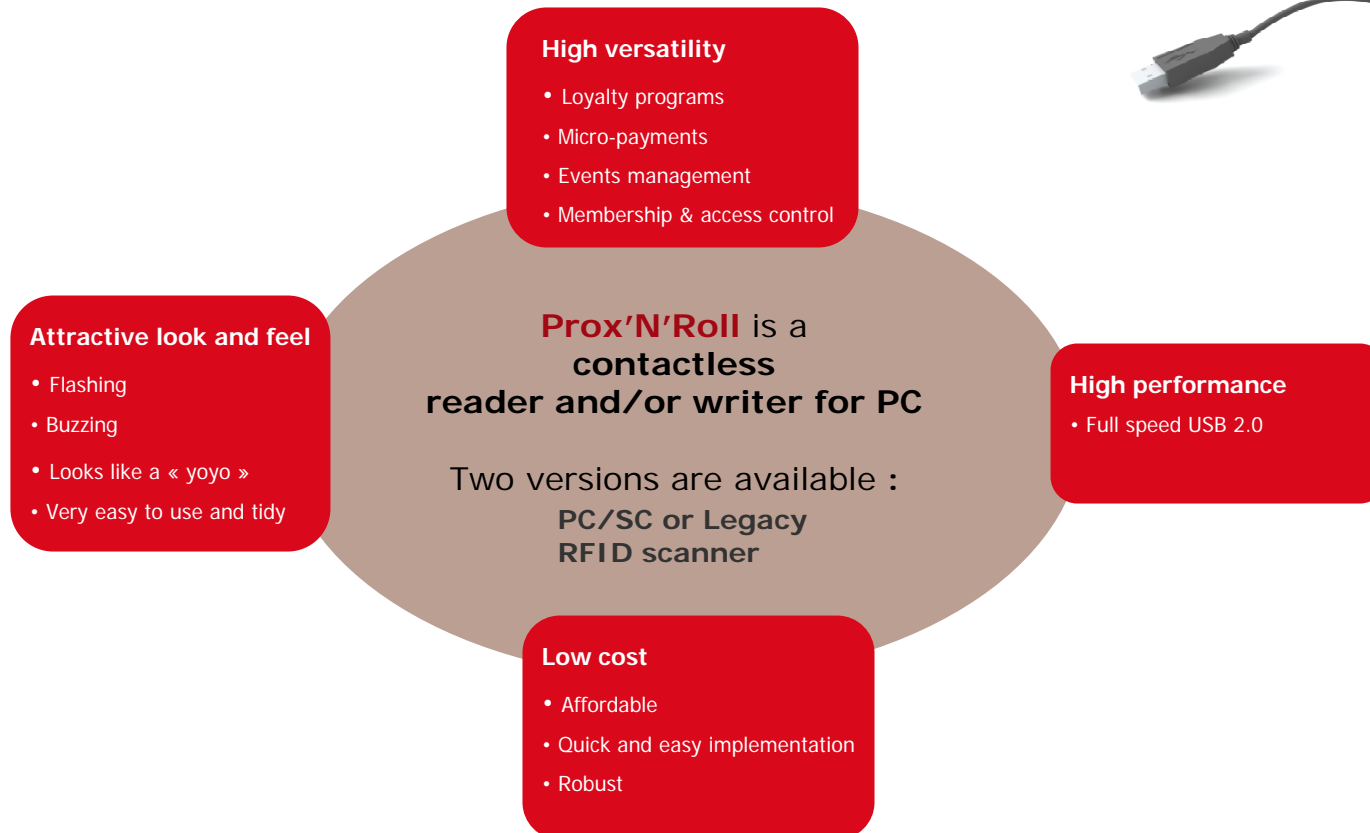
- Product overview
- PC/SC or Legacy mode
- RFID Scanner mode
- Demo time !
- Documentation links
- Appendix 1 : Security issue. How to secure the reader configuration?
- Appendix 2 : Creating master cards





Product overview

Prox'N'Roll assets



Prox'N'Roll versions



Two versions are available :

PC/SC mode or Legacy mode

- Contactless smartcard reader/writer (13.56MHz range)
- **PC/SC mode** : USB smart card reader
- **Legacy mode** : virtual serial com. port

RFID scanner mode

- 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 mode

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')** compliant smartcards

Supported contactless cards

- **NXP** (*formerly Philips Semiconductors*): **Mifare Classic**, and **UltraLight**, **Desfire**, **ProX**, **SmartMX**,
- **MultOS** or **JavaCard T=CL** cards,
- **ICAO e-passports** and other **ID** or **travel** cards,
- **Calypso** transportation cards,
- **NFC mobile phones** or other **NFC-enabled objects** (*tag emulation mode*)
- **HID iClass** (*serial number only*)
- **and more**

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 it?



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>

PC/SC or Legacy interface



USB interface	
Standard	USB 2.0 full speed (12Mbps) - also supports 1.1
Power supply	Bus powered (≈200mA under 5V)
User-selectable PC/SC or legacy operating mode	



PC/SC mode	
Standard USB CCID profile	
Windows driver	Tested with Windows 2000, XP, Vista
Linux and others	Open source pcsc-lite CCID driver
API and SDK	Full PC/SC – Free SDK available

Legacy mode ²	
USB virtual serial comm. port API compliant with existing products (CSB4, CSB5, K531, etc)	
Drivers	Windows, Windows CE, Linux
API and SDK	SpringProx API SDK sold separately



Prox'N'Roll RFID scanner mode

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

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

How to use it?



Procedure

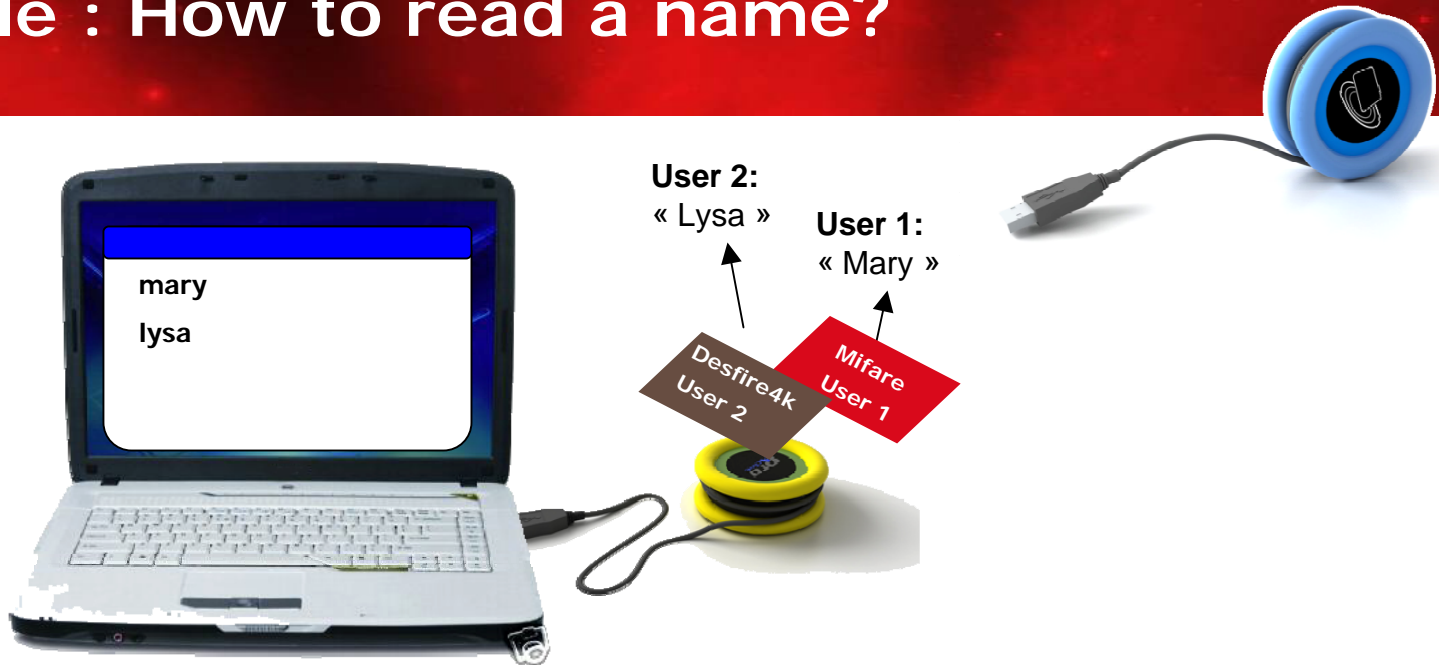
- 1/ Plug in your Prox'N'Roll RFID Scanner
- 2/ Open a text editor

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

Example2

- Card type : Desfire 4k
- Target data location : XXXXX
- Size : 16 bytes
- 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 :

- Target data location : XXXXX
- Size : 16 bytes
- 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 in PC/SC and Legacy modes
- How to configure PC/SC Prox'N'Roll into Legacy Prox'N'Roll? (a few seconds !)
- How to configure the RFID scanner to read other data than the serial number of the card (also a few seconds !)



Prox'N'Roll Documentation links

Product information sheets



- PC/SC or Legacy mode :

<http://www.springcard.com/download/find.php?file=pfl8p7p&product=proxnroll>

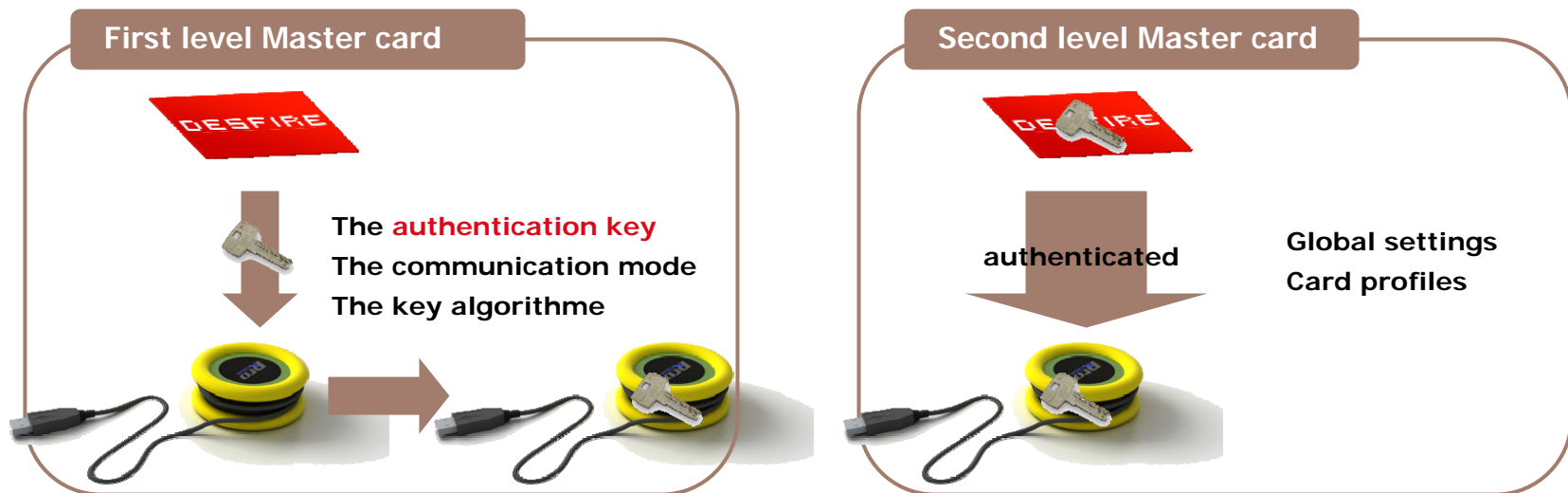
- RFID scanner mode :

<http://www.springcard.com/download/find.php?file=pfl8p9p&product=proxnroll>

Appendix 1 : Security issue

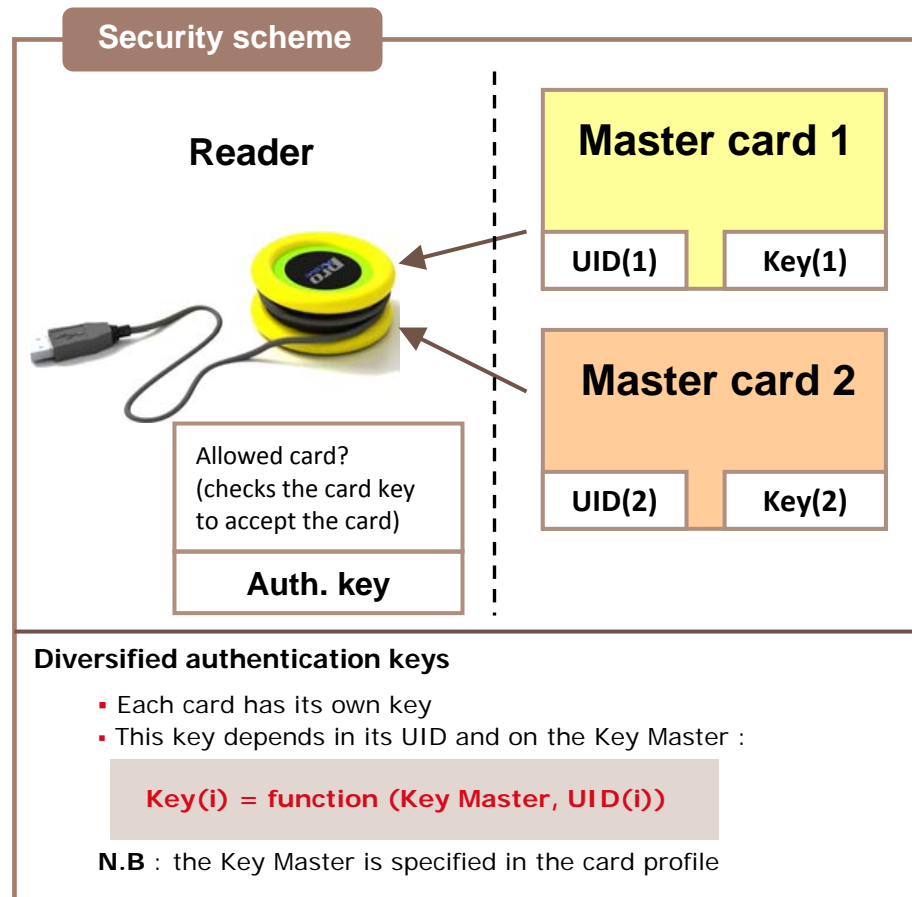
How to secure the reader configuration?

- 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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