

# Prox'N'Roll

a SpringCard 2008 device



## Agenda

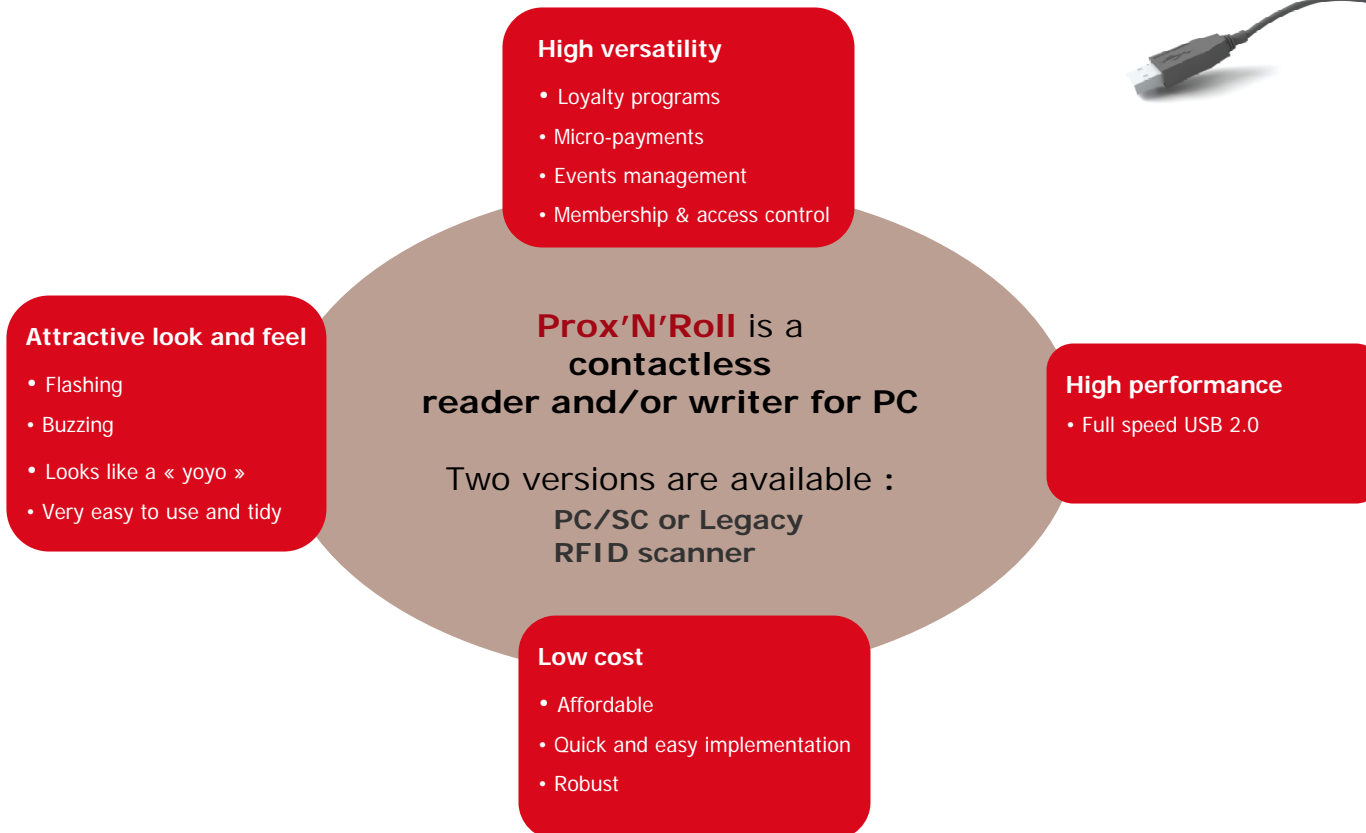
- Product overview
- Prox'N'Roll PC/SC or Legacy
- Prox'N'Roll RFID Scanner
- Demo time !
- Appendix 1 : Security issue. How to secure the reader configuration?
- Appendix 2 : Creating master cards





# 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>

## Prox'N'Roll : Demo Time !

- QuickStart applications : PCSC Diag, MifareTool
- Epassport reading : Golden Reader (PC/SC Compatible)

# 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,
- **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*)

# 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!!



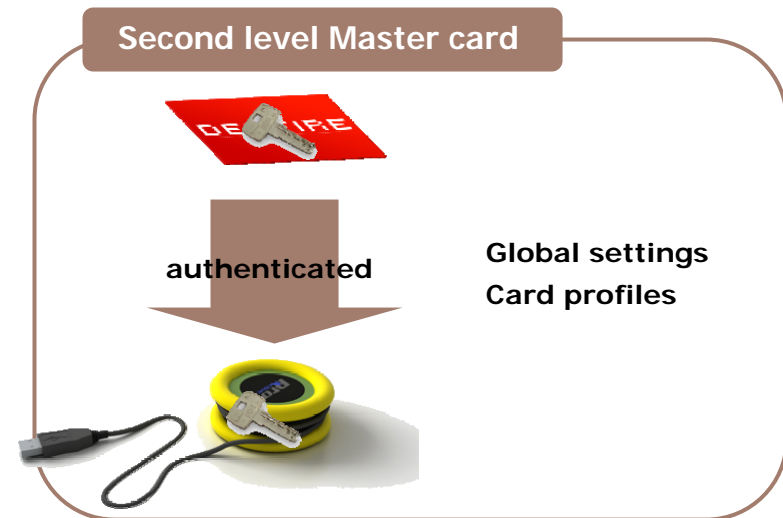
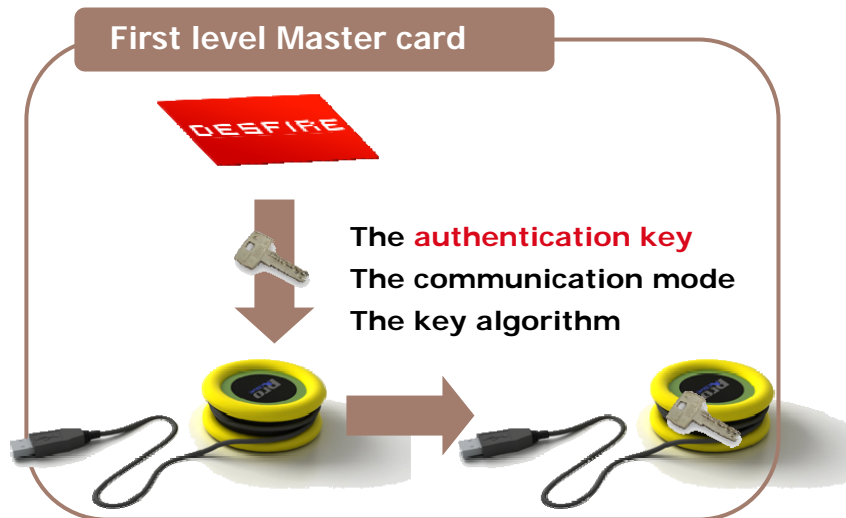
# Prox'N'Roll Demo time !

- How to configure the RFID scanner to read other data than the serial number of the card

# Appendix 1 : Security issue

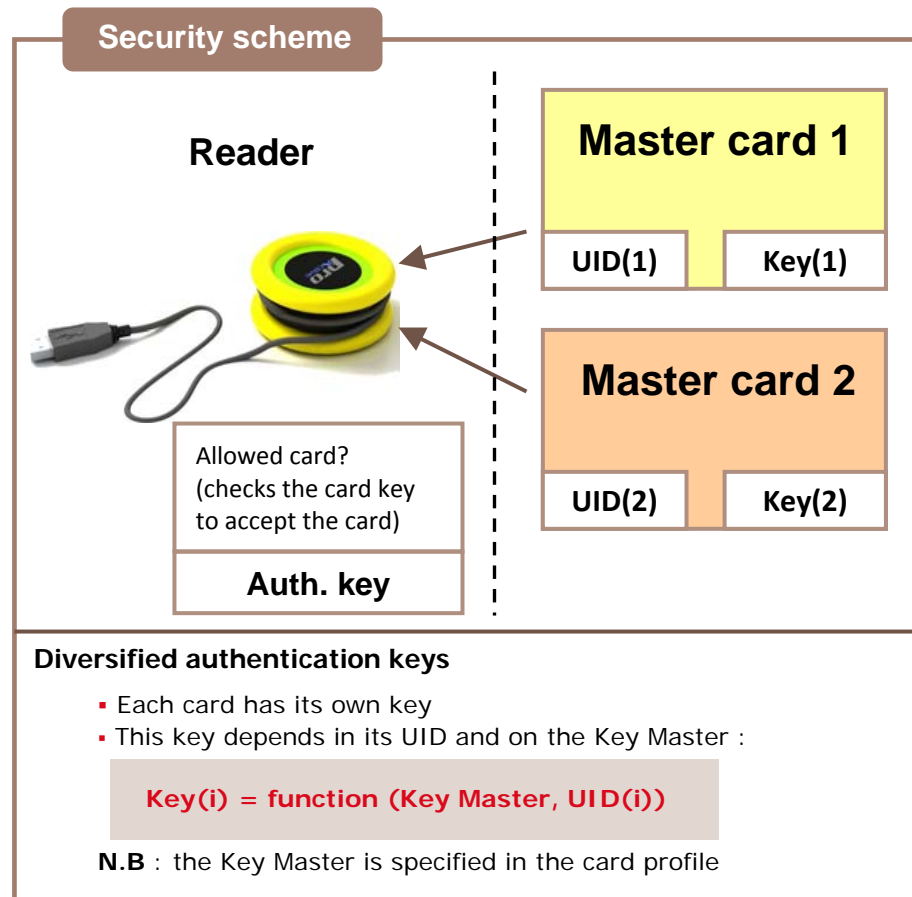
## How to secure the reader configuration?

- 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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