



Understanding MIFARE for NFC

Essentials on MIFARE solutions deployed for Mobile NFC

MIFARE solutions are massively deployed mainly for Transportation & Physical access services, with existing legacy infrastructures already on the field.

Such solutions can be implemented via **Mobile NFC Secure Element & Handset applications**, also benefiting from connectivity & User Interface of handset

This course will provide the necessary knowledge to understand how such solutions can be **designed, deployed & used** in the Mobile NFC ecosystem

At the end of the training you will:

- > Have an overview of the different MIFARE solutions & their main use cases & markets
- > Understand how MIFARE services can be integrated & used in Mobile NFC solutions
- > Get feedback on existing deployments, with lessons learned & best practices
- > Have an idea on future evolutions of MIFARE-related services...

Who should attend?

Telecom, Transport, Bank staff:

- > Programme/Project Managers
- > VAS staff
- > Architects
- > Security Managers
- > Integration & Test Staff
- > SIM managers
- > System developers
- > ...

Pre-requisites:

- > Overview on NFC Ecosystem & technology recommended

This course is held in English



PROGRAM

Introduction to MIFARE technology & market

- > What is MIFARE?
 - o Specifications, history, licenses....
- > Overview of different MIFARE protocols
 - o Classic, DESFire...
 - o Positioning with other solutions (Calypso, Felica, EMV...)
- > Main use cases
- > Markets & deployments

MIFARE basics

- > Protocol (commands, timing...)
- > Mappings
- > Files
- > Security...
- > Demos
 - o Reading plastic MIFARE cards characteristics

« MIFARE »: from plastic cards to Mobile NFC solutions*

- > Overview - MIFARE applications in Secure Element/Mobile - User Interface
 - o Going Mobile...benefits & constraints (UI, connection, RF, CLF, CLT...)
 - o Classic, DESFire application basics
 - o Compatibility between themselves & with other SP apps
 - RF parameters: UID, SAK...

MIFARE4Mobile*

- > What is it? Why? (need for interoperability...)
 - o Specifications & history
- > How does it work
 - o User experience
 - o Basic functionality

- > Actors Roles & Solution architecture & Flows
 - o SE applets, UI apps, OTA management
- > M4M evolutions & Trends (V1 – V2...)

* Including Mobile NFC “MIFARE” integration & Deployment factors

- > UICC:
 - o OS specifics, configuration of UICC, activation/deactivation
 - o “MIFARE” related applets, codecs & specific data
 - o Pre-loaded, post-issuance of applications, data perso
- > Handset:
 - o UI apps, security (GP SE AC) other?
 - o User experience (selection, by default, other?)
 - o Multi-SP/app schemes
 - o NFC Compatibility with existing infrastructure
 - o Testing & Validation in transport/access/payment context
 - reader issues, legacy issues
 - o Recommendations for Handset manufacturers
- > Remote management of solution:
 - o OTA, POS?
 - o What can & cannot be done remotely
 - o SP interaction
- > Trusted Service Management with TSH, SP & MNO-TSM:
 - o Compatibility, Architecture examples, full life-cycle management, specific services (ex: top-up)
 - o Lessons Learned & Best Practices for transport, other...

