



Mastering SIM & USIM Cards

Everything you need to know about (U)SIM Cards, Technologies, Security & Services

(U)SIM cards play a larger role today, than simply **securing access** to mobile networks. They are also used as standard, secure and **portable platforms** for personal data & **value added services (VAS)**; remotely updateable in a standard & secure way “**Over-The-Air**” (OTA).

This training course will allow you to **easily understand** the main standards, technologies, features & security of these products. It will allow you to **analyze & manage** (U)SIM cards using state-of-the-art tools.

At the end of the training you will:

- > Understand (U)SIM card functionality to ease analysis of cards using SIM tools
- > Have a clear overview on security mechanisms, and what subscriber-related information is stored in cards
- > Understand the concepts & mechanisms around VAS toolkit technology
- > Have a clear overview on the process & security around OTA, for remote management of (U)SIMs
- > Benefit from real field feedback on what cards & services are currently deployed

Who should attend?

- > SIM Manager
- > VAS Manager
- > Handset Validation Team
- > Project Manager
- > Developer Staff
- > Roaming Manager
- > Forensic Team
- > ...

Pre-requisites:

- > No specific pre-requisites for this course

This course is held in English



PROGRAM

Introduction to the SIM & USIM Cards

- > Standard & network evolution

SIM & USIM Cards

- > Characteristics & evolution of the Card
- > Card Architecture & Standards
- > Mobile – Card communication
- > SIM/USIM modes
- > File systems
- > Logical channels & generic UICC commands
- > Administrative commands
- > Access Conditions
- > UICC PIN Management
- > 3G Authentication
- > SIM/USIM Interworking
- > 3G Phonebook
- > Practicals:
 - o SIM Files browsing
 - o 2G & 3G PIN Management
 - o 2G & 3G File creation & Access Conditions
 - o Simulate GSM & 3G Authentication
 - o USIM Files browsing
 - o Record APDU trace
 - o File Content Reports
 - o Card Typing
 - o Creating 3G Phonebook

USIM Application Toolkit overview

- > Examples of Toolkit Value added Services,
- > USIM Toolkit concept & standards ETSI 102 223,
- > SIM Toolkit protocols
- > Practicals:
 - o Demo on Toolkit applet loading & installation
 - o Analyses of APDUs Exchanged with Mobile Simulator
 - o Universal Tracer

OTA Overview

- > Introduction, concepts,
- > “Enhanced Short Messages” – “GSM 23.048”
- > Remote File & Applet Management Concept
- > BIP-CAT TP Overview
- > Practicals:
 - o Demo on OTA
 - o SMS received with data ciphered and not ciphered

