(U)SIM Tools

PC tools for the (U)SIM context

Giesecke & Devrient

G&D offers a range of PC tools to provide guidance through the (U)SIM life cycle, starting from developing and testing applications for the (U)SIM, proceeding to reading, editing and testing a manufactured test card, and ending with managing and analysing the end customer card at the points of sale.

Application development tools

- ***Browser Suite***
  - A set of sophisticated tools to develop XML applications for micro browsers like SmartTrust WIB™ or SIMalliance™ S@T browser
- ***Java™ tools***
  - JMAD – Java™ Mobile Application Designer: CASE tool – easy to use "drag and drop" tool with a graphical user interface for programming
  - STARSIM® Developer Suite: Professional high-end Java Card™ debugging tool
  - JLoad: Tool for loading and managing applications on Java™ cards

All developer tools come with a mobile phone simulator to test the application.

Professional (U)SIM tools

- ***Profiler3***
  - Superior tool for setting up and specifying the electrical profile of a (U)SIM
- ***UniverSIM® Master***
  - Elaborated tool to read, edit and test the file system of a (U)SIM

POS (point of sale) tool

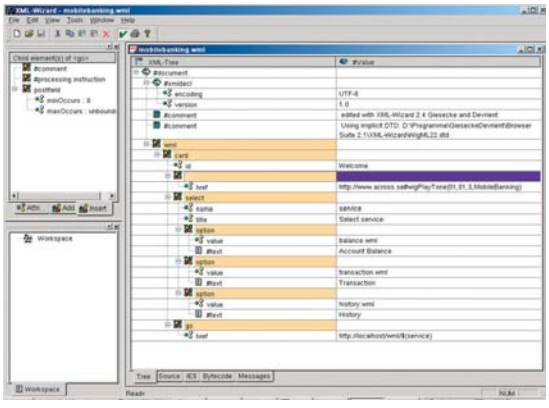
- ***UniverSIM® Analyser***
  - Easy to use and effective POS tool to analyse and manage end customer (U)SIMs

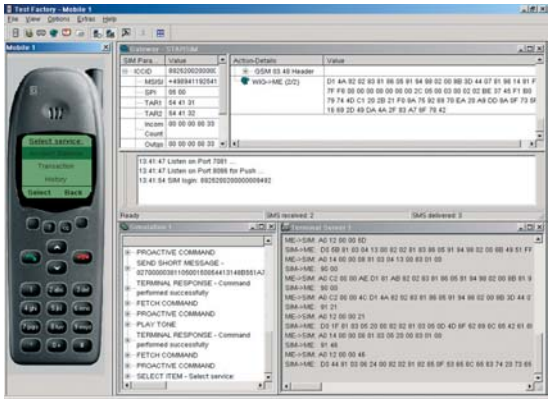
Application development tools

Browser Suite

Micro browsers offer the possibility to roll out applications easily and use resources effectively. G&D's Browser Suite is optimised to support the development and testing of such applications.

- All micro browser applications are written in XML. Browser Suite supports SmartTrust™ WML, S@TML, and USAT Interpreter WML.
- A life network environment can be simulated or incorporated. All communication between the different components such as content, security, web server, Wireless Internet Gateway (WIG) and (U)SIM card can be monitored and tracked.
- Browser cards can be pre-configured with an application.

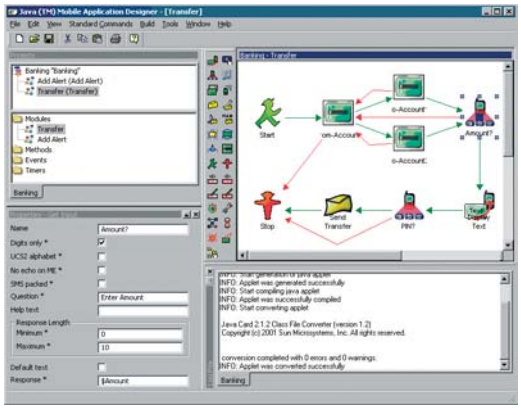




Java™ tools

Java™ Mobile Application Designer (JMAD)

JMAD is a CASE tool for GSM and UMTS applications allowing the development of Java™-based services. The graphical user interface with a set of predefined commands provides an easy way to tie up Java™-based applications. The command set can be extended to include new user individual commands. Separate windows organise project and menu data and allow for the definition of command parameters. The enhanced debugging feature helps to eliminate possible mistakes. That way even inexperienced designers with minimum Java Card™ knowledge can design a complete Java Card™ application in a very short time. It is therefore ideal for a rapid prototyping process. Using the JMAD tool, it is possible to download the applet to a Java™ card and test it with the integrated mobile phone simulator.



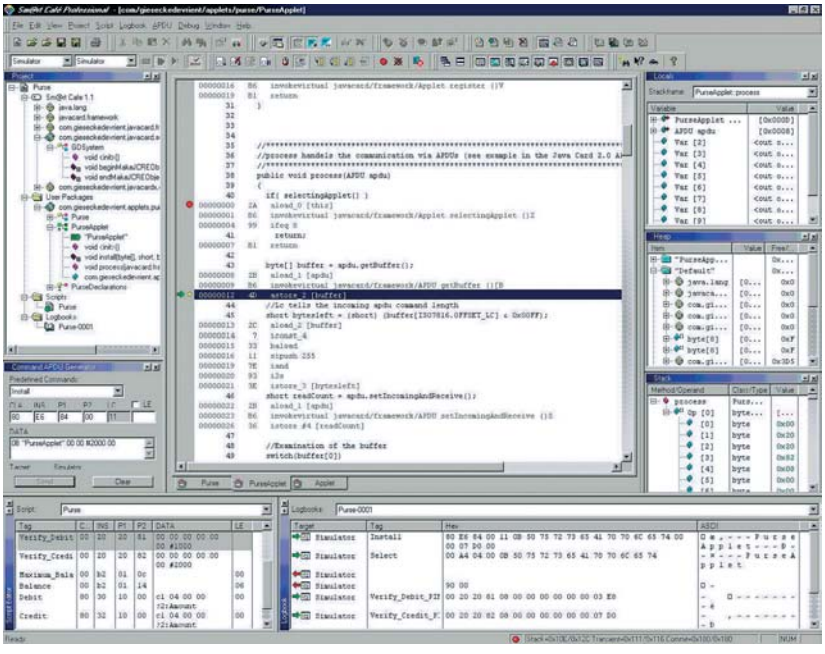
STARSIM®
Developer Suite

The STARSIM® Developer Suite is G&D's highly sophisticated Java Card™ application development tool that can be used for all SIM Java Card™ products. Multi-functional cards necessitate multi-functional tools. The Suite allows users to easily develop, debug, simulate and test Java Card™ SIM Toolkit applications.

While for security reasons "real" on-card debugging is not possible, the STARSIM® Developer Suite simulates a Java Card™ 2.1.1 compliant card based on real Java Card™ code, i.e. new applications can be tested and debugged in an on-card manner. In addition to the smart card development and testing in different card environments, symbolic debugging on source code and class file levels is supported by the Toolkit.

The testing and debugging of Java Card™ applications is supported with a special smart card APDU scripting interface and a connection to the G&D virtual mobile simulator. The behaviour and functionality of a SIM Toolkit Java Card™ application can therefore be tested in a very easy and comfortable way with the final look and feel of a real mobile phone.

By supporting a whole set of cryptographic functionality, the Toolkit covers the requirements of various solutions in the market.



JLoad

JLoad is a powerful state-of-the-art Java Card™ loader. Simplicity and flexibility are the major characteristics of this tool.

Java Card™ applets can be
- downloaded
- installed
- administered
- deleted

in a very easy and intuitive manner. In addition, the JLoad tool provides all the extractable card content information on a textual basis; it offers an APDU command interface and a CAP-file browser. JLoad's state-of-the-art design provides an opportunity for fast development of customised point of sale products.

Two graphical user interfaces, JLoad and JLoad Advance, are available for users with different levels of Java Card™ experience and skills.

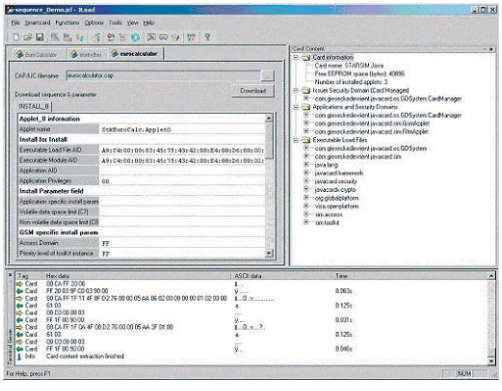
Authentication and communication can be done via the
- Open Platform mechanism (OP2.0.1'/2.1 specified by Global Platform)

or via a second standardised way using the
- 3GPP TS 23.048 compliant mechanism.

If non-OP or OTA standard compliant Java™ cards have to be used, JLoad offers the option of integrating proprietary authentication algorithms and pre/post authentication APDU scripts.
A special feature of the JLoad tool is the option of defining a complete download sequence of several applets in one download/install project.

JLoad already supports multi-instance deletion. Several applets and packages can be selected and deleted in one step.

In the same way as download sequence definition or configuration are carried out, all other parameters, such as life cycle status, can be managed in an easy and intuitive manner.



Professional (U)SIM tools

Profiler3

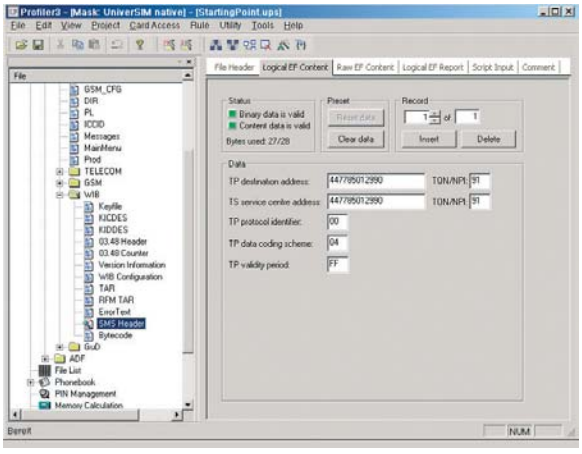
Profiler3 is a sophisticated (U)SIM tool. Defining the electrical profile of a (U)SIM has become increasingly complex. New features like the extended phonebook of a USIM and enhanced services like MMS provisioning data result in a file system with numerous elementary files (EFs). Defining a specification (profile) of the desired (U)SIM is extremely difficult in a standard PC-based Office application like MS Word. A combined SIM/USIM profile accumulates 120 to 160 EFs.

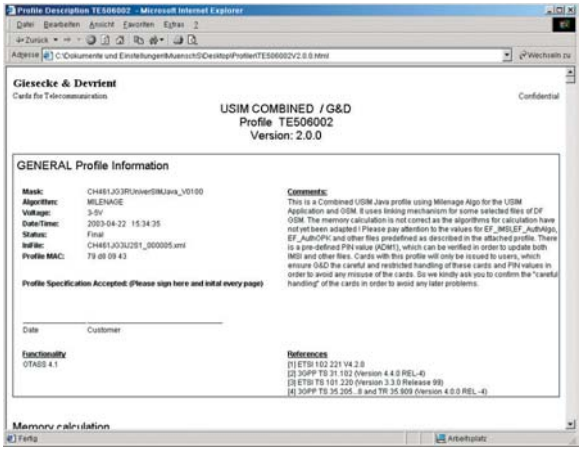
G&D's Profiler3 Customer Edition offers all advanced features to simplify this task.

- Editing template profiles
- "Click selection" of all parameters
- Automatic conversion of EFs content to HEX coding
- Editing of complex phonebook in one view, content is spread over several EFs
- Online memory calculation
- Printable profile description in HTML can be extracted

The profile is stored in an XML format, which is ideal to further automated usage. This offers quite a few advantages as the profile will be validated automatically to the latest specifications. Furthermore the file will be loaded directly on the personalisation equipment for the production of the card. This ensures that the card content and the document are identical.

As the Profiler3 is used by G&D's technical consultants as well as by the customer it is only necessary to exchange the Profiler3 output file to communicate changes in the profile. A versioning system assures that all changes can be tracked. The data transfer is done via standard e-mail. G&D suggests PGP for privacy. Using the Profiler3 at both ends decreases the turn-around time drastically and minimises mistakes caused by miscommunication.
The user interface is state-of-the art and intuitive.



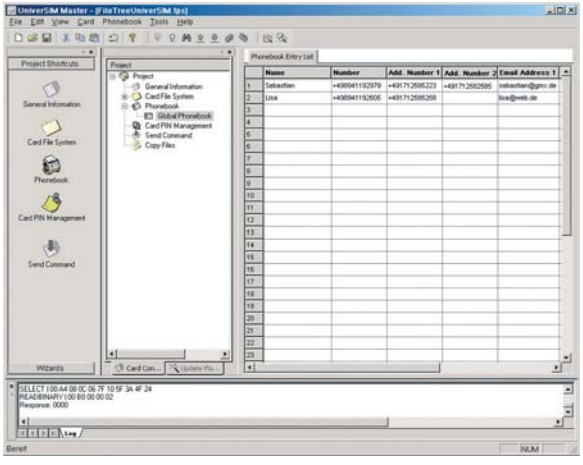


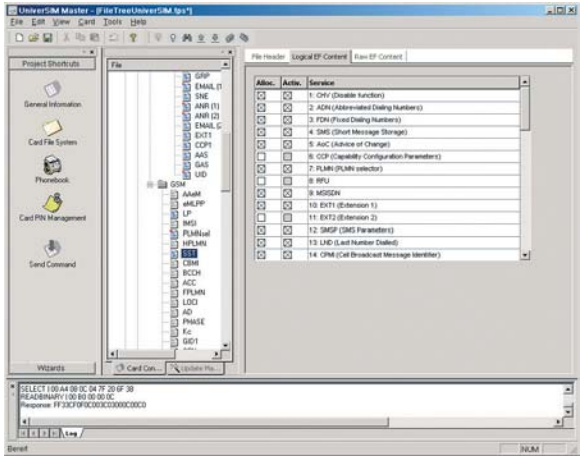
UniverSIM® Master

The UniverSIM® Master is an innovative and powerful EF editing tool that allows you to read, modify and download any accessible elementary file (EF) to your SIMs and USIMs. The UniverSIM® Master supports all types of (U)SIM cards – no matter if they are GSM SIMs, 3G USIMs, 3G/GSM combined cards, Java Card™, or a native operating system. Assuming the cards comply with the relevant standards, the usage of the UniverSIM® Master is independent of the card manufacturer.

The UniverSIM® Master features:

- Flexible solution offering powerful card management for (U)SIM engineers
- Functions for editing the complete file structure
- Innovative phonebook view including wizard for complex phonebook configuration
- Define script sessions for batch updates of EFs
- Print report of complete file system



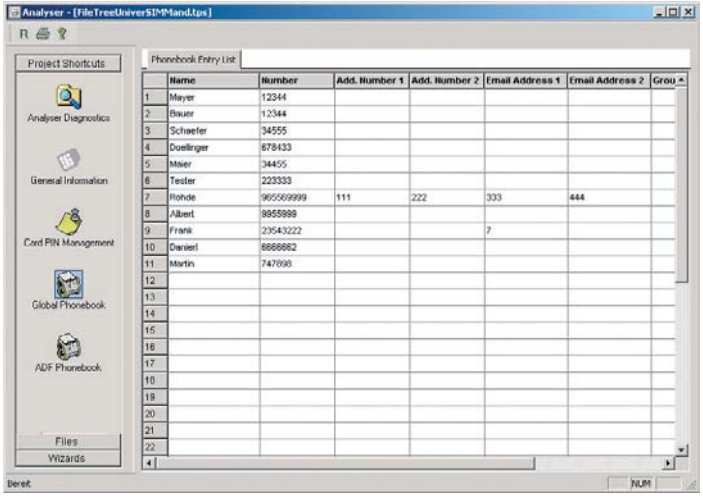


POS (point of sale) tool

UniverSIM® Analyser

UniverSIM® Analyser performs all the tasks necessary at the point of sale (POS).

- Support of all UICCs: SIM, USIM or combined, Java Card™ or native
- Quick diagnostics of the SIM or USIM status
- Reading the configuration of the card, number of telephone entries, SMS, service provider, etc.
- Unblock, enable or disable PINs
- Editing and back-up of telephone numbers
- (U)SIM swap: copy user data from one card to another
- Print content of the (U)SIM
- Tool is customisable with operator logo/picture
- Very simple to use, no training required



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