



Technical Document

GSM PROTOCOL STACK

G23

XM – GUI-FRONTEND FOR GPF M.BAT

USER GUIDE

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0 Document Control

0.1 Change History

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2001-Feb-23	RK		0.1		1
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Notes:

1. Initial version
2. New Document Id introduced

0.2 List of Figures and Tables

0.3 List of References

[ISO 9000:2000]	International Organization for Standardization. Quality management systems - Fundamentals and vocabulary. December 2000
[MOAN]	06-03-53-UDO, MoanBtn – Instant GUI-problem Informer (mbtn_userguide.doc)
[XPAN]	06-03-36-UDO, xPanel – MMI Test Application (PC) (xpan_userguide.doc)
[XM_DD]	06-03-55-SLL, XM –GUI-frontend for GPF m.bat (xm_description.doc)
[PCO2]	06-03-35-UDO, PCO2 – Tracing Environment (pco_userguide.doc)

0.4 Abbreviations

ACI	Application Control Interface (AT Commands)
G23	The Condat implementation of Layers 2 and 3 of the GSM Protocol Stack
G23 Target System	Hardware which executes G23
GPF	Generic Protocol stack Framework
LCD	Liquid Crystal Display
MM	Mobility Management
MMI	Man Machine Interface
MOC	Mobile Originated Call
MTC	Mobile Terminated Call
PC	Personal Computer
PCO	Point of Control and Observation
PIN	Personal Identification Number
RS232	Serial Communication Standard
Target System	Shortened form of 'G23 Target System'

0.5 Terms

Entity	Program which executes the functions of a layer
Message	A message is a data unit which is transferred between the entities of the same layer (peer-to-peer) of the mobile and infrastructure side. Message is used as a synonym to protocol data unit (PDU). A message may contain several information elements.
Primitive	A primitive is a data unit which is transferred between layers on one component (mobile station or infrastructure). The primitive has an operation code which identifies the primitive and its parameters.
Service Access Point	A Service Access Point is a data interface between two layers on one component (mobile station or infrastructure).

1 Introduction

G23 is a software package implementing Layers 2 and 3 of the ETSI-defined GSM air interface signaling protocol, and as such represents the part of a GSM mobile station's protocol software which is both, platform and manufacturer independent. Therefore, G23 can be viewed as a building block providing standardized functionality through generic interfaces for easy integration.

The G23 suite of products consists of the following items:

- Layers 2 and 3 for speech & short message services,
- Layers 2 and 3 for fax & data services,
- Application Control Interface/AT Command Interface,
- MMI and MMI Framework (MFW) and
- Test and integration support tools.

This document is the User Guide for "xm", a GUI-Frontend for the GPF-"m.bat" (in ClearCase: \GPF\BIN\m.bat). This batch file can be used to run several makefiles of the GPF components, like FRAME, CCD, XPANEL a.s.o. Xm provides a GUI-interface to make the usage more easy and intuitive.

XM does include moan button support (see [MOAN]), if you got the moanbt.n.dll with the package (internal CONDAT workers with ClearCase automatically get it).

2 Application Manual

Xm is fully implemented in Tcl/Tk. For more details see [XM_DD].

2.1 Environment

To use xm some environmental constraints have to be taken into account.

For use under Windows:

At first you'll have to make sure that several DLL-files are available to the system. In the Condat development directory structure you can find them in „<View>/GPF/tools/bin“ :

- tk83.dll, tcl83.dll

So just make sure „<View>/GPF/ tools/Bin“ is in your PATH-variable. ("xm.bat" will do so for you)

Furthermore the Tcl-interpreter expects some files in subdirectories of a lib-folder relative to the start-directory -> "../lib". At Condat all the necessary files can be found in "<View>/GPF/tools/Lib" :

- tk8.3-directory
- tcl8.3-directory

2.2 Usage

If you start “\GPF\BIN\m.bat” from command line you’ll get all suitable parameters. Xm hides these behind a GUI-interface with checkboxes, radio controls ...

To start xm just double click on “xm.bat” in “\GPF\BIN” or type “xm” in an initvars-initialized 4NT-Box.

A GUI-window like this should appear:

The general functionality is described below:

The screenshot shows the 'xm 1.0 beta' GUI window. It features a 'Save & Exit' button at the top. Below it is a section titled 'Choose GPF-project and options:' containing radio buttons for 'Frame', 'CCD', 'xPanel', 'PCO', 'TAP', and 'ccddata-DLL'. The 'Frame' option is selected. Below this are three columns of options: 'Project' (tools, GSM, WARP, GPRS), 'Target' (Win32, Nuc, NucWin), and 'Options' (DEBUG, Clean, Tracing, Routing, OFE, ALR). The 'GSM' project, 'Win32' target, and 'Tracing' and 'Routing' options are selected. A text input field for manual build options is located below the options. At the bottom, there is a 'Run m.bat' button and two text input fields: 'Proj-drive:' (containing 'z:') and '4NT-path:' (containing '\\GPF\tools\bin\4nt.exe').

Annotations on the right side of the image point to various parts of the GUI:

- Save environment into “xm.ini” and exit (points to the 'Save & Exit' button)
- Selection of the GPF-project to build (points to the 'Choose GPF-project and options:' section)
- Selection of the main project to build for (points to the 'Project' column)
- Selection of the target to build fo (points to the 'Target' column)
- Selection of build options (points to the 'Options' column)
- Space for adding more build options manually (points to the text input field)
- Run m.bat with selected parameters -> build (points to the 'Run m.bat' button)
- Specify the drive letter of your work view (points to the 'Proj-drive:' input field)
- Specify the path to your 4nt.exe (points to the '4NT-path:' input field)

3 Known problems and future tasks

This paragraph is meant to show which bugs are already found (but not removed yet) and to provide an impression of future plans concerning this product.

3.1 Known bugs

- The project drive will not be saved

3.2 „Soon implemented“

- more compact layout

3.3 „Nice to have “

-

Appendices

A. Acronyms

DS-WCDMA Direct Sequence/Spread Wideband Code Division Multiple Access

B. Glossary

International Mobile Telecommunication 2000 (IMT-2000/ITU-2000) Formerly referred to as FPLMTS (Future Public Land-Mobile Telephone System), this is the ITU's specification/family of standards for 3G. This initiative provides a global infrastructure through both satellite and terrestrial systems, for fixed and mobile phone users. The family of standards is a framework comprising a mix/blend of systems providing global roaming. <URL: <http://www.imt-2000.org/>>