



Technical Document

GSM PROTOCOL STACK

G23

XM – GUI-FRONTEND FOR GPF M.BAT

DEVELOPERS DESCRIPTION

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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_UG]	06-03-55-UDO, XM –GUI-frontend for GPF m.bat (xm_userguide.doc)
[PCO2]	06-03-35-UDO, PCO2 – Tracing Environment (pco_userguide.doc)

0.4 Abbreviations

GPF Generic Protocol stack Framework

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.

"Xm" is 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 (based on Tcl/Tk) to make the usage more easy and intuitive.

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

This documentation is dedicated to interested developers. For user/customer specific documentation see [XM_UG].

2 Solution

Xm is fully implemented in Tcl/Tk.

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.

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 Implementation

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 ...

All source files can be found in “\GPF\util\xm”.

In “xm.tcl” the whole GUI-interface and the functionality to call “m.bat” with the right parameters is implemented using TCL/Tk. “Xm.cpp” is just a wrapper to make moanbtn-support possible and “xm.bat” makes sure that “\GPF\tools\bin” is in the path (see 2.1) - for usage directly from MExplorer. “proc run {}” is the central procedure in “xm.cpp” - it finally calls “m.bat”.

For building you can either use gnumake with the makefile or the MS-DevStudio project files in subdirectory "MSDev".

Suitable parameters for the makefile are (listed by "gnumake help"):

- without any parameter (or exe) ... make release version xm.exe and copy (export) "xm.exe", "xm.bat" and "xm.tcl" to "\GPF\BIN"
- DEBUG=1 ... make debug version of "xm.exe" and copy (export) al files to "\GPF\BIN\debug"
- EXPORT=0 ... don't copy (export) to "\GPF\bin" ("\GPF\BIN\debug")
- clean ... clean release objects of "xm.exe" (with DEBUG=1 clean debug versions)
- checkin ... check in all project files into ClearCase-VOB (with CICMT=<checkin comment> you can specify a checkin comment, "auto checkin" will be used otherwise)

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/>>