EARTH EXPLORER MISSION CFI SOFTWARE

Release Notes - Version 3.2

1 INTRODUCTION

This note describes the changes introduced in the new release of the Earth Explorer CFI software libraries.

2 NEW RELEASE DESCRIPTION

2.1 CFI Software and Documentation Delivery

The new versions of the CFI software libraries are the following:
- EXPLORER_FILE_HANDLING -- Version 3.2 - 15/11/04
- EXPLORER_LIB -- Version 3.2 - 15/11/04
- EXPLORER_ORBIT -- Version 3.2 - 15/11/04
- EXPLORER_POINTING -- Version 3.2 - 15/11/04
- EXPLORER_VISIBILITY -- Version 3.2 - 15/11/04
- EXPLORER_GEN_FILES -- Version 3.2 - 15/11/04

The following Software User Manuals have been updated accordingly:
- EXPLORER_FILE_HANDLING issue 3.2
- EXPLORER_LIB issue 3.2
- EXPLORER_ORBIT issue 3.2
- EXPLORER_POINTING issue 3.2
- EXPLORER_VISIBILITY issue 3.2
- EXPLORER_GEN_FILES issue 3.2
- GENERAL issue 3.2

2.2 Compilation software and platform

This release of the CFI libraries are provided for SOLARIS and LINUX platforms.
- SOLARIS:
  - Solaris 2.7 (or later) Operating System
  - gcc compiler version 3.3.2 (for linking the software to a C application)
  - libxml2 version 2.5.7 or later
- LINUX:
  - Linux 2.4.18 (RedHat 8.0) Operating System
  - gcc compiler version 3.3.1 (for linking the software to a C application)
  - libxml2 version 2.5.7 or later

  Note that there is an incompatibility between gcc compiler version 3.3 and the RedHat 7.x Operating System. The standard C library (libc.a) is not fully compatible with gcc V3.x.
- PC WINDOWS:
  - Microsoft Windows 2000 or XP Operating Systems.

- Microsoft Visual C++ 6.0 Compiler (for linking the software to a C application)
- libxml2 version 2.5.7 or later
• MACOSX
  - Mac OS X version 10.3.6
  - gcc compiler version 3.3 (for linking the software to a C application)
  - libxml2 version 2.6.2 or later

Note that the distributed binaries have been generated with no debug and no optimization flags (no SIMD optimization either).

2.3 Installation executables.

New installation programs are provided for:
• WINDOWS
  - "Earth Explorer CFI 3.2.exe" -- Version 3.2- 15/11/04
• MACOS
  - EE_CFI_Installation_3.2.dmg -- Version 3.2- 15/1104

3 CLOSED SPRS

The following SPR have been solved:
• EXPCFI-SPR-040: Execution of test AT-X4 in test `cfi_at_explorer_lib_13.c` using mode `XL_KEPLER_MEAN` does not fulfil the pass/fail criteria.
• EXPCFI-SPR-041: The `xl_cart_to_kepl` CFI function return values for the mean anomaly upper to 360 degrees (with `kepl_mode=XL_KEPLER_MEAN`).
• EXPCFI-SPR-042: Segmentation fault: the stack memory allocated by the low level routine `XG_Sdf_prev_check` is well above the default stack size.
• EXPCFI-SPR-043: Unexpected error in `xp_change_frame`: "Error in XP_Create_base: Second input vector CS is wrong ".
• EXPCFI-SPR-044: The order in which the angles are given as input or produced as output is different from the order specified in explorer_lib SUM (`xl_get_rotated_vectors` and `xl_get_rotation_angles`)
• EXPCFI-SPR-045: The computed yaw angle from Satellite Orbital Reference Frame and Satellite Nominal Frame (using GPM or LNP) is -180 degrees instead of zero.
• EXPCFI-SPR-046: Error when reading several DORIS Navigator Files.
• EXPCFI-SPR-047: IDs: Specify the assignment to NULL in the calling interface of the initialization routines.
• EXPCFI-SPR-048: In the table describing the input parameters of xo_propag_extra, the parameter type is wrong: it should be "`xo_propag_id`".
• EXPCFI-SPR-049: SUM errors for LIB and POINTING.

4 NEW REQUIREMENTS

The following new features/requirements have been implemented (see section "Known Problems" at the end of each of the SUMs to check limitations of the current release):
• EXPLORER_POINTING
  - Use of the Digital Elevation Model is now supported.