ESOV NG Version 2.2 - Release Notes

1. NEW RELEASE DESCRIPTION

1.1 Software and Hardware Requirements

The ESOV NG v2.0 software is available for the following computer platforms:

- Windows XP / Vista / 7 (32-bit)
- Mac OS X Intel 10.5 or above (64-bit)
- Linux (64-bit)

The ESOV NG software requires:
- Version 1.6 or higher of the Java Development kit (JRE). It is already included in the ESOV NG package for Windows.
- 300+ Mb of hard disk space
- 512+ Mb RAM
- It is advised to have at least 1024 x 786 resolution display

1.2 Installation Executables

An ESOV NG distribution consists of one installer file for each supported computer platform:

	32-bit	64-bit
Mac OS X Intel	-	EsovNG_macintel64_2_2.dmg
Linux	-	EsovNG_linux64_2_2.sh
Windows	EsovNG_windows_2_2.exe	-

1.3 Installation Hints

The installation of the ESOV NG will be guided through an *Install4j* installation wizard.

- Windows 32-bit:
Run the executable installer *EsovNG_windows_2_2.exe*. Follow the instructions displayed by the installation wizard.

- Mac OS X Intel 64-bit:
Unpack the disk image *EsovNG_macintel64_2_2.dmg* by double-clicking it in a Finder window. A new Finder window will be opened, showing the package 'ESOV NG Installer'. Double-click the installer package and follow the instructions displayed by the installation wizard.

- Linux 64-bit:
Simply run the shell script *EsovNG_linux64_2_2.sh* and follow the instructions displayed by the installation wizard. Note that you may have to set execution permission with the command:
```
sudo chmod a+x EsovNG_linux32_2_0.sh
```
or
```
sudo chmod a+x EsovNG_linux64_2_0.sh
```

Note that the ESOV NG installer will overwrite installation folders of previous versions if the application is installed in the same directory. Please remember to backup your own data files in case they are stored in the installation directory.

Please check Sections 2 and 3 of the ESOVNG user manual for further information about the installation and application start-up.

The Section 4.3 of these Release Notes ("Hints and Tips") provides useful information regarding issues than may occur after starting Esov NG.

2. <u>NEW FUNCTIONALITIES</u>

This new release provides the following new functionalities with respect to v2.0:

- Core third-party libraries upgrade
    - <u>ESOVNG-AN-280</u>: EO CFI SW libraries upgraded to version 4.7
    - <u>ESOVNG-AN-281</u>: Java updated to version 6
    - <u>ESOVNG-AN-285</u>: Geotools library upgraded to version 9.5

- Mission support
    - Add additional spacecrafts and their instrument swaths to the distribution package: SENTINEL5P, JASON_CS (SENTINEL6), SWARM_A, SWARM_B, SWARM_C
    - Instrument swaths for SLSTR added to SENTINEL3
    - Instrument swaths for ATLID, BBR, CPR and MSI added to EARTHCARE

- GUI and style modifications:
    - <u>ESOVNG-AN-216</u>: Display 'point'-like zones (small diameter) as a point with configurable size
    - <u>ESOVNG-AN-227</u>: The gear icon button in top right position has been replaced by button with the text 'Apply" in lower right position
    - <u>ESOVNG-AN-228</u>: The option "Show Orbit Numbers" has been moved into the Style window
    - <u>ESOVNG-AN-268</u>: Satellite and scenario name have been added to the Zone/Station Database Editors

- Handling of ESOV NG input/output files:
    - <u>ESOVNG-AN-204</u>: The consistency of the orbit information used across SCF files (e.g. when loading multiple SCF files with information for different instruments) is checked. In case inter-consistency is not verified the loading is aborted and the user warned.
    - <u>ESOVNG-AN-218</u>: When using POF/ROF file to generate the orbits, the contents of the <Orbit_Settings> structure in file exports (SCF/LLF/UTF) have been changed to include the filename and validity.
    - <u>ESOVNG-AN-241</u>: File references in input/output files (scenario files, SCFs) have been set to point to local path to the file. When importing these files the application tries to locate the file references according to the file name and path. In case the files are not found the application notifies the user and opens a file navigation window.

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- Time segments calculation:
    - ESOVNG-AN-265: Report zone/station name in Segments lists. Be able to sort by time, zone/station.
    - ESOVNG-AN-279: New segment calculation modes added to the Instrument SCOPE pull down menu: MULTIZONE, MULTISTATION. These modes allow calculating the visibility time segments using multiple zones or stations with the difference with respect the ZONE, STATION modes that the overlapping time segments are merged.
    - ESOVNG-AN-276: It is possible to perform logical operations (AND, NOT and OR) on time segments. The operations are performed using previously generated SCF files. This functionality is available through the application menu Tools→ SCF logical operations
    - ESOVNG-AN-244: A mechanism to apply Sun Zenith Angle constraint to the segments calculation and display has been implemented.

- Miscellaneous features
    - ESOVNG-AN-200: New mechanism to calculate the geodetic distance between two points.
    - ESOVNG-AN-225: Longitude and latitude is displayed as a tooltip when mousing over map location when pressing the 'CTRL' key. As long as the 'CTRL' key is pressed, the tooltip is updated when moving around the mouse
    - ESOVNG-AN-271: Support for TLE files has been added. Currently only possible for the following missions: CRYOSAT2, ENVISAT, ERS1, ERS2, GOCE, METOP_A and SMOS. The TLE file needs to be physically stored in the filesystem.
    - ESOVNG-AN-274: New zooming mechanism for azimuthal /gnomonic projection
    - ESOVNG-AN-275: A new tool window (SSP, sub-satellite point) has been added to include a time bar. The time bar allows to display the SSP position at time selected in the slider.

- Default layers:
    - ESOVNG-AN-196: Additional geographical layers (coastlines, country borders, rivers and lakes, minor islands) added to the default set (under 'User Shapes' in the Layer Manager) and background images (under 'User Background Images' in the Layer Manager)

- Import and export files:
    - ESOVNG-AN-160: Small modifications in input/output XML files to harmonize formats
    - ESOVNG-AN-176: Export time segments (with instrument swaths) to KML, from application menu File→Export Segments.. → KML…
    - ESOVNG-AN-213: Transform shapefiles to ESOV NG zones, from Tools → Shapefile to Zones
    - ESOVNG-AN-226: Import file with list of Longitude/Latitudes and display as points (with labels and size) from File→Import…→Point of interest…
    - ESOVNG-AN-283: Import file with list of UTC times and display location of Sub-Satellite Point for those times, from File→Import…→Sub-Satellite point…
    - Tools→Import…→Shapefile…
    - ESOVNG-AN-328: The UTC time has been added to the SCF file export

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3. CLOSED SPRS

The following SPRs have been closed:

- ESOVNG-AN-191: Grid labels incorrectly located when step < 1 degree resolution
- ESOVNG-AN-193: Error message if East and West longitude are set to the same value
- ESOVNG-AN-210: At the beginning and at the end of a multiple point swath the area should not be filled
- ESOVNG-AN-211: Wrong segments for SIX POINTS swath (OPEN and CLOSED). Related to EOCFI-AN-440
- ESOVNG-AN-215: Irregularities when plotting circular zones with small diameter
- ESOVNG-AN-219: The application displays the complete segment if SCF contains a single segment (across orbits) and #Orbits=1
- ESOVNG-AN-220: The SDF to STF usage is not accurate when using POF/ROF
- ESOVNG-AN-221: When using a POF, if SCF is loaded and 'No' is selected in the dialog window (use current orbit settings) the displayed segments are wrong
- ESOVNG-AN-245: a) A zone across the 180 meridian is not displayed correctly. b) The exported image is not complete (after centering at long=117, lat=0.0)
- ESOVNG-AN-253: Validation of the contents of the Orbit tool window should be done when clicking on 'Apply', and not while typing
- ESOVNG-AN-266: Closed swaths are not displayed correctly (missing bit at the beginning and at the end of the swath)
- ESOVNG-AN-267: Gnomonic projection - Sometimes it is not possible to perform image rendering image
- ESOVNG-AN-269: Diameter in circular zones is ignored (considered as point zone)
- ESOVNG-AN-284: Station perimeter not displayed correctly for different values of AOS/LOS/mask selection flag

4. ADDITIONAL COMMENTS AND KNOWN PROBLEMS

4.1 Mission Support

Orbit Scenario Files (OSF) for the supported missions can be found in the EOP System Support web server, under the link:
http://eop-cfi.esa.int/index.php?option=com_content&view=article&id=99&Itemid=507&jsmallfib=1&dir=JSROOT/DOWNLOAD

4.2 Known Problems

The current ESOV NG release has de following open anomalies:

- ESOVNG-AN-241: Save scenario file with POF/ROF. Load scenario file. The number of orbits is not the one from scenario file, but the complete range.
- ESOVNG-AN-292: Groundstations file: If Satellite List is present and satellite name is not exactly equal to any of Esov NG satellites, the application does nothing without giving a message
- ESOVNG-AN-293: Zone Database file: When loading Zone BD file including a Point/Circular Zone with diameter zero, the application returns an error if zone added to scenario

- <u>ESOVNG-AN-294</u>: If syntax error in IDF, the error message "Spacecraft IDF file(s) cannot be read. Improper IDF file setup. Cannot continue - will exit" does not inform the user in which IDF file there is a problem
- <u>ESOVNG-AN-302</u>: When loading SCF, the swath colours in Style / Layer Manager are not consistent with colours as set in SCF
- <u>ESOVNG-AN-306</u>: Datum line (180 deg. longitude) looks thinner than other meridians (in world view)
- <u>ESOVNG-AN-314</u>: Error computing swath intersection with a zone for swaths that cross the pole
- <u>ESOVNG-AN-332</u>: In Windows, the application returns an error and exits after making calculations and changing map projection when ground station is added to the scenario.

4.3 Hints and Tips

- If your system has a previous installation of ESOV NG, you may see the following error window when launching the application:
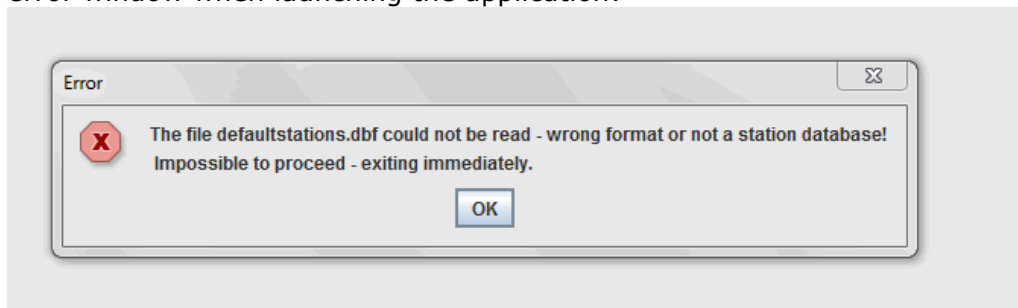
  This problem is due to an incompatibility with the previous version of the defaultstations.dbf file. The way to solve the problem is to delete the existing file defaultstations.dbf. This file can be found in the user application folder. See Section 2.5.2 in the User Manual for further instructions about how to locate the user application directory (location is platform dependent)

- If your system has a previous installation of ESOV NG you may not see the latest default layout. In order to see it, just go to the user application directory (see Section 2.5.2 in the User Manual), rename (or remove) the existing file myLayout.layout and launch again ESOV NG.

- If for any reason the tool windows do not appear in the main window frame, you can restore the default layout by selecting "Window → Reset Layout"

- If the style of the segments is changed, a window pops up to warn the user that the style of the individual segments is lost after recomputation. To block the warning window please select the option 'Do not show this message again'

- In order to import a LLF or UTF file export type .csv using a spreadsheet application, load it as external data and select 'semicolon' as delimiter. To correctly import the decimal seconds in the UTC time, you just need to customize the cell format to hh:mm:ss.000

- It is possible to display ESRI shapefiles. The "shapefile" must consist of the following physical files:
    *.dbf - attributes in dBase format

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*.prj - the projection
*.shp - the geometry data
*.shx - the geometry indices

The user shapefiles have to be stored in the folder "user_shape_files", under the application directory (see Section 2.5.2 in ESOV NG User Manual) prior to launch ESOV NG. The contents of this folder are scanned at start-up and the list of detected shapes is shown under the 'User Shapes' entry in the Layer Manager. Then, a new entry 'User shapes' appears in the Layer Manager.

- Please check the ESOV NG user manual for further information.

5. **REPORTING PROBLEMS**

For any problems or questions please send an e-mail to the ESOV NG helpdesk: *esov@eopp.esa.int*