ESOV NG Version 2.4 - Release Notes

1. NEW RELEASE DESCRIPTION

1.1 Software and Hardware Requirements

The ESOV NG v2.4 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 1.7 or higher of the Java Runtime Environment (JRE). It is already included in the ESOV NG packages for Windows and Mac OS X.
- 350+ 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_4.dmg
Linux	-	EsovNG_linux64_2_4.sh
Windows	EsovNG_windows_2_4.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_4.exe*. Follow the instructions displayed by the installation wizard.

- Mac OS X Intel 64-bit:
Unpack the disk image *EsovNG_macintel64_2_4.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_4.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_linux64_2_4.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. **NEW FUNCTIONALITIES**

This new release provides the following new functionalities with respect to v2.3:

- Mission support
    - Add additional spacecrafts and their instrument swaths to the distribution package: BIOMASS
    - Two separate spacecraft identifiers provided for A/B satellites of the same mission, e.g. SENTINEL1A and SENTINEL1B instead of generic SENTINEL1
    - Default orbit parameters have been updated to latest know values for ESA missions already launched (Sentinel-1A/B, Sentinel-2A, Sentinel-3A, SMOS, Cryosat)
    - New "Orbit files" folder with Orbit Scenario Files (OSFs) and Predicted Orbit Files (POFs) are provided as part of the installation for several ESA missions. These files are pre-loaded whenever the checkbox "Use OSF" or "Use POF/ROF" is enabled

- Import/export files:
    - ESOVNG-AN-333: The time segments in the export files are sorted in the same way as in the selected Segment panel
    - ESOVNG-AN-343: It is possible to export to KML the ORBIT ground-track (for a given time step, taking value from User Preferences)
    - ESOVNG-AN-344: The SCF resulting from logical operations include the corresponding UTC time
    - ESOVNG-AN-369: It is possible to import simple KML files as KML and/or convert to zone database file
    - ESOVNG-AN-371: In the KML export the individual swath polygons are encapsulated in a single structure (<MultiGeometry>), to simplify navigation in Google Earth navigation tree
    - ESOVNG-AN-374: In the KML export the segments have been grouped under a folder by absolute orbit number (to easily enable/disable visibility of orbits in Google Earth navigation tree)
    - ESOVNG-AN-391: Support TLE files generated by ESOC (parsing & format validation)
    - ESOVNG-AN-389: Improvement of KML files style definitions:
        a) Use sub-folders to group per orbit and still maintain the individual segments
        b) Include the UTC start/stop times in the name of the time segments
        c) Have balloons associated to each segment with all the associated information

- Orbit Configuration:
    - ESOVNG-AN-345: Orbit tool window: Start/Stop UTC times result in the display of relevant time segment instead of full orbits
    - ESOVNG-AN-368: TLE files: it is possible to define TLE identifier of a mission not supported by EO CFI (configuring the IDF file)
    - ESOVNG-AN-370: Improvements to Time bar in SSP (Sub-Satellite Point) toolwindow
        a) Applicable Start/Stop Times are shown (not editable, taken from Orbit window)
        b) It is possible to set time in the editable textbox

    - ESOVNG-AN-373: The ASCENDING/DESCENDING filter is applied not only to the display but also to the segment calculation

- Miscellaneous features:
    - ESOVNG-AN-375: Antarctica added to the default coastline layer
    - ESOVNG-AN-360: The Command line interface support extended to export graphical exports: KML files and images.
    - ESOVNG-AN-366: New features in the AZ/El 2D plot tool:
        a) Station mask profile shall be displayed on top of AZ/El 2D plot
        b) The UTC time, azimuth, elevation values can be exported to text file
    - ESOVNG-AN-367: The station location (lon/lat/alt) is set by default to zeros when editing a copy of existing station. The values from the original station are copied instead.

3. CLOSED SPRS

The following SPRs have been closed:

- ESOVNG-AN-329: Station perimeter not displayed correctly across datumline (e.g. HAWAI)
- ESOVNG-AN-336: SCF Logical Operations: Style of resulting SCF set to default values - Instrument Style not updated and if changed it is reset after recalculation
- ESOVNG-AN-350: KML export includes two types of "Placemark": Polygon and LineString. Sometimes the LineStrings are not complete on top right edge of swaths.
- ESOVNG-AN-357: Loading saved Esov NG scenario file (using POF) and de-selecting the 'Use POF/ROF' flag (back to default parameters) the application returns an error message. The same happens when selecting 'Use OSF', make a calculation and then going back to default parameters.
- ESOVNG-AN-359: Default size of first column (containing the radio-buttons) is too small or radio-button size too big (on Mac OS X only)
- ESOVNG-AN-361: Segments in SCF are displayed in segment window with a single colour (no matter if some of them have with a different colour given in the SCF)
- ESOVNG-AN-362: Presence of swath-related artifacts (datum-line crossing and wide- swath distortions)
- ESOVNG-AN-363: When loading OSF, then POF and then coming back to OSF, the Start Orbit is set to 1 (default value) instead of being set to the first orbit of the select orbital change (last item in OSF list)
- ESOVNG-AN-365: Point-swath tracks disappear when zooming
- ESOVNG-AN-377: The validity of a POF/ROF file (as given in the Info sub- panel) should not change depending on the orbit range provided in Start Orbit, #of Orbits

- <u>ESOVNG-AN-378</u>: When centering the map away from Greenwich meridian, the grid labels on the negative longitude range appear to be misplaced, away from the map border
- <u>ESOVNG-AN-380</u>: Apllication crashes if selecting New mission --> user defined mission without field <Absolute_Reference_Orbit> in IDF (IDF format < v2.3)
- <u>ESOVNG-AN-383</u>: Zones (ASIA, EURASIA) not filled properly. Closing point missing
- <u>ESOVNG-AN-384</u>: The station perimeter is not correctly filled if across datumline
- <u>ESOVNG-AN-386</u>: If default colour changed, the colour in Segment panel is not updated.
- <u>ESOVNG-AN-407</u>: When using TLE files, the validity start UTC time is sometimes set to 0.0 MJD2000 (i.e. 2000-01-01T00:00:00), leading to an error and the application exiting if the Apply button is clicked

4. <u>ADDITIONAL COMMENTS AND KNOWN PROBLEMS</u>

4.1 <u>Mission Support</u>

Latest versions of Orbit Scenario Files (OSF) or Predicted Orbit Files (POF) for the supported missions can be found in the EOP System Support web server, under the link (request username/password):
http://eop-cfi.esa.int/Repo/RESTRICTED/APPLICATIONS/ESOVNG/DOWNLOAD/

4.2 <u>Known Problems</u>

The current ESOV NG release has de following open anomalies:

- <u>ESOVNG-AN-383</u>: It is not possible to switch on/off the display of individual zone /stations ('Eye' icon in first column of Zone/Station tool window)
- <u>ESOVNG-AN-379</u>: Java exception when clicking on year in Date Widget (Start/Stop Time). Workaround: date textbox can be edited
- <u>ESOVNG-AN-385</u>: List of zone intersection segments is not complete when using TLE file.
- <u>ESOVNG-AN-400</u>: Artefacts appear if zone is filled and zoom is applied (e.g. EURASIA, AFRICA
- <u>ESOVNG-AN-401</u>: Distortion over the Poles in Rectangular projection for very-wide swaths (e.g. TROPOMI)
- <u>ESOVNG-AN-415</u>: Default orbit parameter: Under certain circumstances, the calculation of the start date of the time interval is set to one day earlier than given in the Date textbox

4.3 <u>Hints and Tips</u>

- In case you install the Windows version, you may experience the following issue, depending on the Java configuration in your system:

  "After double-clicking on **esovng.exe**, the application does not start"

  This issue can be easily circumvented. Steps to follow:
  - o Locate the file named **esovng.vmoptions** in the "Esov NG" installation folder.
  - o Comment out the last two lines, as follows:
    #-Xms256m

       #-Xmx1536m
- o Launch again the application executable (**esovng.exe**)

    After this change, the application should start normally.

- Triggering the update check always results in a message window as if there is no internet connection:
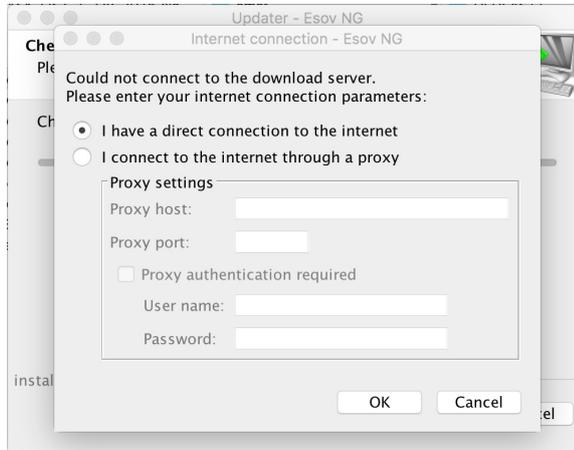
    Note that it is possible to avoid having the window asking to check for updates every time the application is launched, by selecting the option:
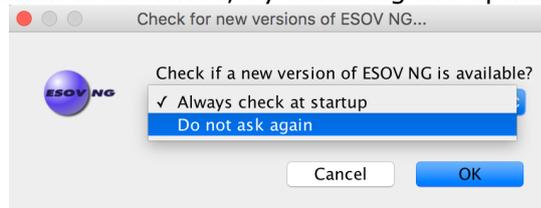
    The check for updates feature can be manually triggered through the menu entry Help → Check for new Esov Ng versions

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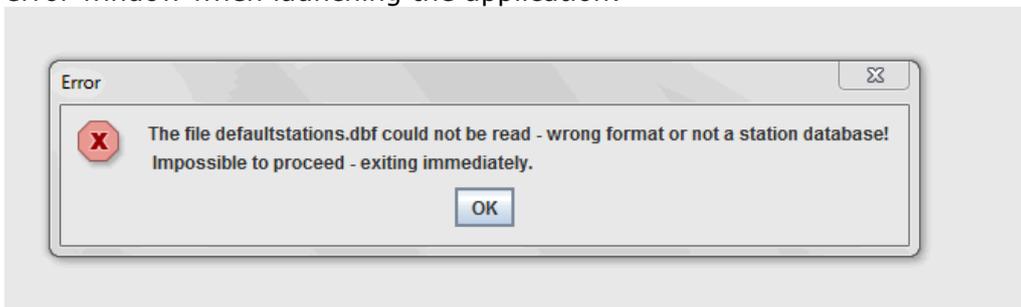
    This problem is due to an incompatibility with the previous version of the defaultstations.dbf file. The way to solve the problem is to delete the existing file defaultstations.dbf. This file can be found in the user application folder. See Section 2.5.2 in the User Manual for further instructions about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

- Missions defined by the user with versions of Esov NG older than v2.3 may not work with the current version. A new field that has been added to the IDF (satellite identification file):

    `<Absolute_Reference_Orbit>1</Absolute_Reference_Orbit>`

    This new field has to be added to IDF file of the user-defined mission, for example:

```
<Default_Settings>
    <Repeat_Cycle unit="day">12</Repeat_Cycle>
    <Cycle_Length unit="orbit">175</Cycle_Length>
    <ANX_Longitude unit="deg">0.000000</ANX_Longitude>
    <MLST unit="h">18.0</MLST>
    <MLST_Drift unit="s/day">0.0</MLST_Drift>
    <Date>2000-01-01T00:00:00</Date>
    <Absolute_Reference_Orbit>1</Absolute_Reference_Orbit>
</Default_Settings>
```

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

5. <u>REPORTING PROBLEMS</u>

For any problems or questions and to receive the username/password to download the software, please send an e-mail to the ESOV NG helpdesk: *esov@eopp.esa.int*