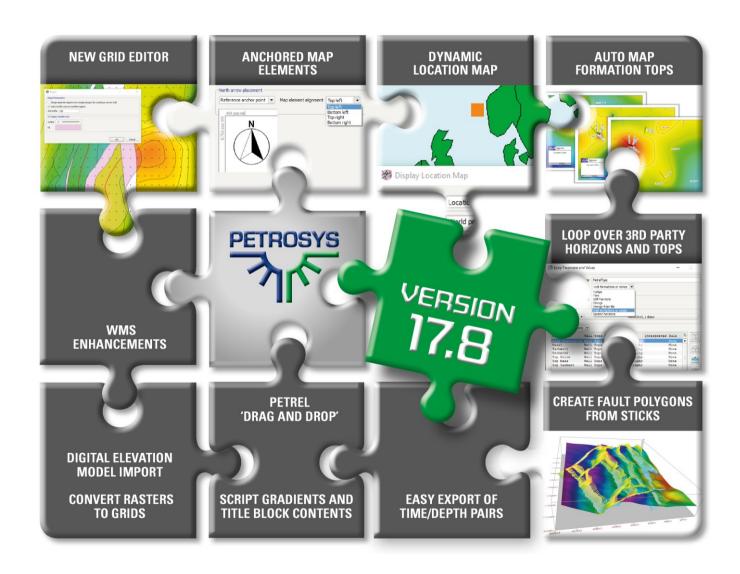


SOFTWARE RELEASE NOTES Version 17.8sp4

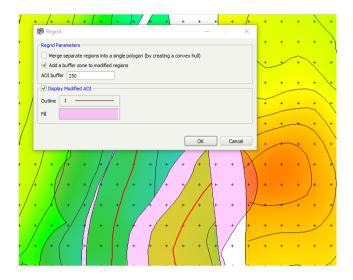
Petrosys v17.8sp4 focuses on improved mapping and editing of data.

In this release, the spatial editor now incorporates a powerful new grid editor that updates surfaces as the nodes or associated contours and faults are edited. A new dynamic location map, support for display tiled Web Service images (WMTS, ArcGIS Server and Bing Maps) and new method of placing map elements further improve the mapping experience. Connectivity is enhanced with direct import of DEM, ArcGrid binary and other Raster files to the Petrosys grid file.

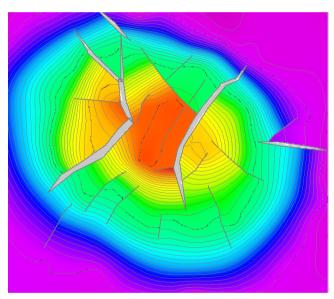


New Grid Editor Improving the Quality of Geological Maps

The spatial editor now includes a powerful new grid editor replacing previous grid editing functionality. A quick and easy way to improve the quality of geological maps without the need for re-interpretation, it also allows easy creation of surfaces from digitised data.



- Edit grid nodes, or the associated contours and faults
- Real time updating of grids following editing – localized re-gridding



- Generate a grid from a few contours digitised on a scanned image. Add more detail and re-grid if required
- New grid editing tools including interactive interpolation and smoothing

Spatial Editor - New and Restored Functions

New tools have been added to the spatial editor to group/ungroup items of the same type and to move objects to the back – this is particularly useful for editing GIS files with shared boundaries such as licence blocks.



Several popular functions previously available in the contour/fault/polygon editor have been restored including:

- Interactively creating a polygon from hand-picked segments. The shape tracing functionality has been updated to automatically jump across shapes when appropriate (i.e. there is an intersection between two shapes)
- Joining line segments
- Export selected shapes to spatial data sources
- Icons to assign, swap and invert fault flags have been added

In addition, the usability of a number of the existing options have been improved considerably making the editor more powerful and easier to use than ever:

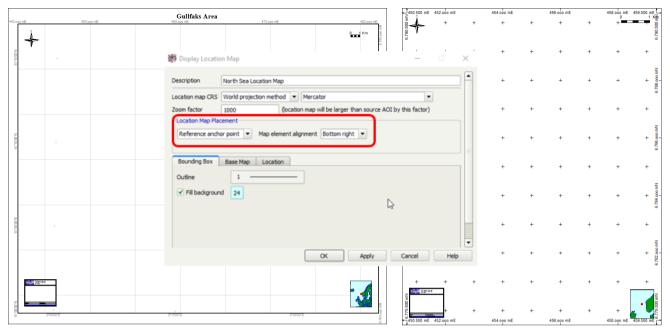
- Added new methods to join and close multiple line segments
- The 'Cut' tool displays end vertices of open lines, which gives a visual indication of what has happened when lines are cut
- Attributes such a contour level are shown in the status bar for shapes under the mouse when "hovering" this makes it easier to select or join particular contours
- A new option has been added that allows export of the current selected shapes (similar to CFP editor)
- The Coordinate table allows control over how coordinates are displayed (different CRS, DMS versus decimal degrees)
- Status bar shows units for length and area of shapes
- Added support for storing and editing lines and polygons stored in Excel. The Spatial Data Translator also supports
 this.
- Vertex mode improvements:
 - o Selecting a vertex in the Coordinates table also selects the corresponding vertex on the map
 - Z-values are displayed as annotation on selected points
 - o Double-clicking on a vertex displays a popup editor for z-values
- Fault editing improvements:
 - o Polyline fault flags are set after editing operations (smooth, compress, cut, join, add vertex etc)
 - Assign Flags, Swap and Invert are tool bar buttons which allows these to be run for multiple selected shapes
 - o The fault Coordinate table popup menu is also available as a RMB menu in vertex mode
 - Vertex mode for faults includes z-value and flag display and editing
- The "Has Z Value" setting is disabled by default for Text and Excel files and this column is now treated as a standard attribute for point data except for Gridding where a z-value is required
- The confirm close panel, shown for modified layers when a layer or the editor is closed, includes a "Save As" option
- The Generate Buffer operation populates attributes on the generated shape from the source shape, where this is possible

Map Element Positioning Enhancements

Map elements, such as the scale bar, legend, title block and north arrow, can now be anchored to a corner of the map sheet.

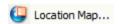
Map elements will remain in the same relative location regardless of the area of interest selected.

The preferred configuration can be saved to a Petrosys .dbm file and subsequently merged into other display lists make it easier to produce consistently formatted maps.



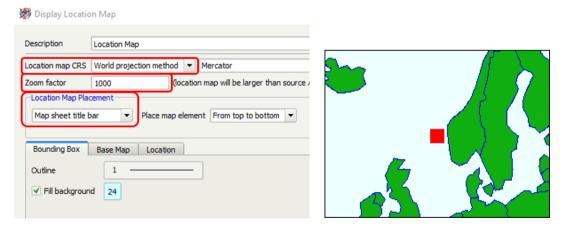
Dynamic Location Map

A new option Location Map option has been added to the Display/Map Elements menu.



This location map is dynamic and will automatically show the current area of interest superimposed on a World Map. The current AOI can be used for the coordinate system or a suitable World projection can be selected.

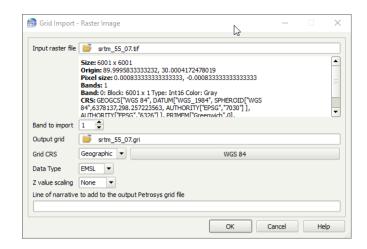
The location map can be anchored to a corner of the AOI or placed in the map sheet title bar. Symbology for the bounding box and underlying World map is controllable.



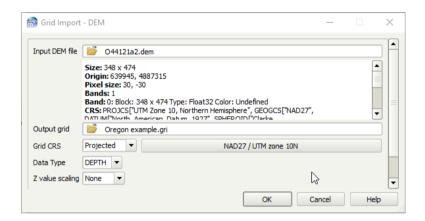
Custom location maps saved as rasters or CGM files can still be placed in the map sheet border.

Raster to Grid Conversion

Import common raster formats to Petrosys grids. Formats include TIFF, JPEG, ECW ArcBinaryGrid (.adf), Erdas Image (.img) and BIL format. The CRS will be read automatically.



Digital Elevation Model Support

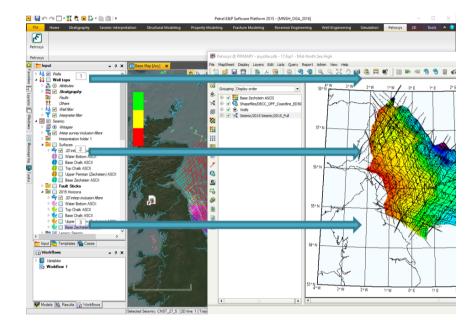


Digital elevation models (DEMs) are commonly used to represent high resolution topography and bathymetry data. Petrosys now imports a wide variety of these formats directly into a Petrosys grid. The CRS is automatically extracted and assigned to the grid.

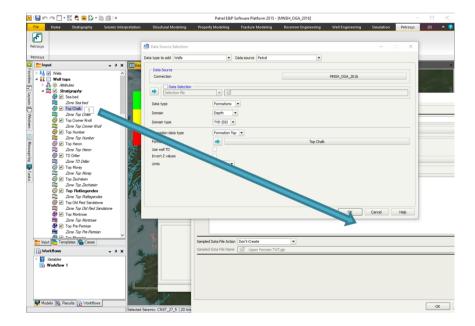
Petrel 'Drag and Drop'

Petrel users can drag and drop layers directly from the Petrel data tree to the Petrosys mapping canvas, eliminating the need to search for data through menus. Supported data types include:

- Wells locations and tops
- Seismic navigation and interpretation. Both 2D and 3D
- Faults
- Grids
- Cultural data



Drag and drop also work in Surface Modelling where well tops and seismic interpretation can be dragged straight into the Gridding Input Data panel. The Output Geometry and Faults tabs also accept data from Petrel via drag and drop. Well Checkshot Depth Conversion and Well Time Depth Trend Conversion dialogs are also supported.



In addition to drag and drop, data can be selected by highlighting it in Petrel, then clicking on the blue arrow in Petrosys.

Display Secure WMS over https Protocol

https secured web map services are required for many company internal WMS and also for vendors selling high value imagery data.

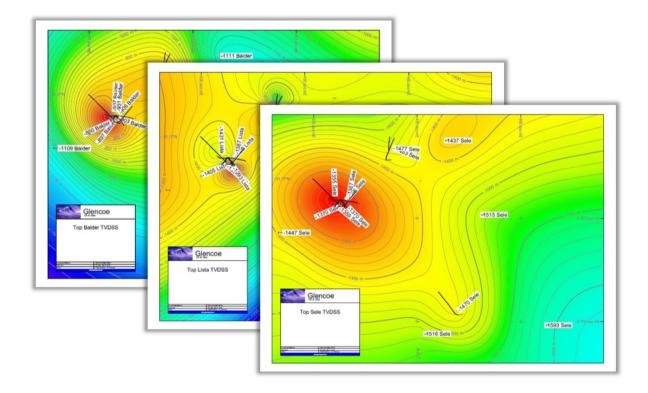
Display Web Map Tile Service (WMTS, ArcGIS Server, Bing Maps)

WMTS serve tiled, georeferenced images rather than a single image. Tiles are pre-rendered on the server side and cached on the client side allowing quick display of high resolution data.

As an example, Esri® map tiles are served in the WMTS protocol

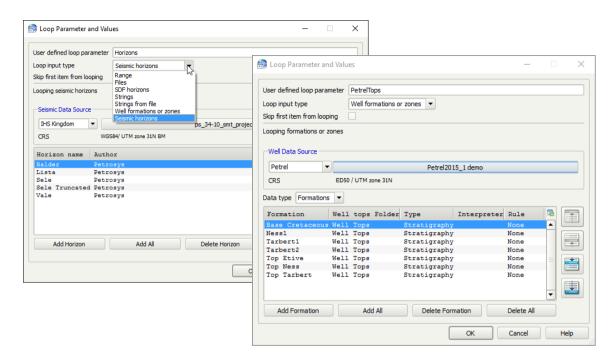
Formation Top Substitution in Automatic Map Generation

The Draw Map now allows well formation tops to be automatically substituted. The Surface Modelling **Draw Map** task lists allows automatic generation of families of maps, typically substituting grids and contours for different horizons over the same area of interest. This has been extended to support formation tops from both the well data file and 3rd party connections.



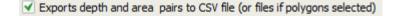
Looping Over 3rd Party Data

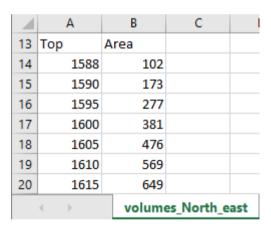
Surface modelling workflows have been enhanced by the addition of looping over horizon and formations from 3rd party data sources, negating the need for import to Petrosys formats for looping. All the applications currently supported by Petrosys are included.



Volumetrics - Output Depth/Area Pairs to CSV

The Volumetrics Reports tab now includes an option to export depth/area pairs as a comma delimited text file (CSV format) which opens directly in Excel. This simplifies import of result to risking packages for further analysis. If volumes are being calculated in multiple polygons, then one file is exported for each polygon using the polygon name as the file name.





Version 17.7 Features

In case you missed them, below are some of the great features from the previous 17.7 release.

Create Fault Polygons from Fault Sticks

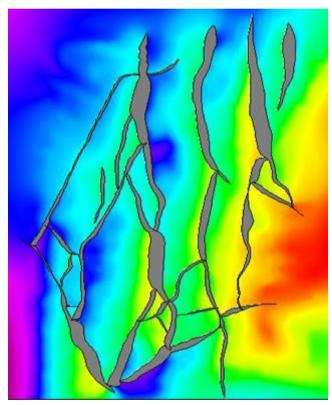
Petrosys users can automatically calculates fault polygons from fault sticks and horizon data – this is a major time saving over manual workflows. The output polygons can identify problems with the source interpretation and are an excellent QC tool for the fault sticks themselves. The output polygons can be edited if required in the Spatial Editor. Fault sticks are supported from Petrel, DecisionSpace, Paradigm and DUG Insight.

When using fault sticks in gridding, fault polygons are calculated using the estimated horizon/fault stick contacts. These fault polygons are embedded within the output grid file and may optionally be saved to a separate fault file. The fault polygons may also be smoothed spatially if requested by the user and their Z-values are populated so that they tie to the output grid surface.

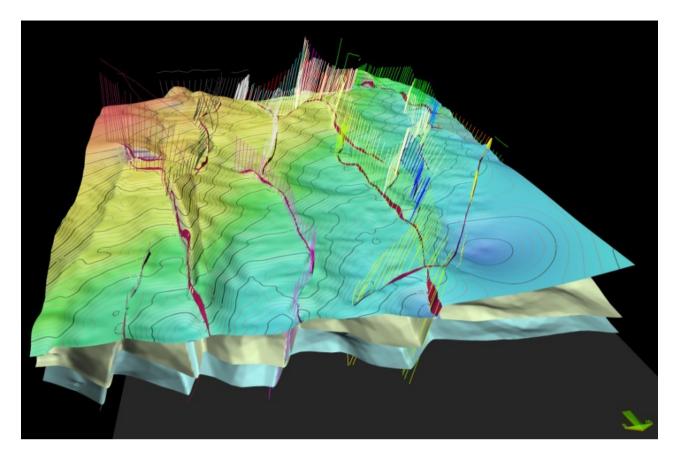
One of the major advantages of the Petrosys algorithm is that there is no pre-requisite surface framework modeling required to run this option, other than to make sure the fault sticks are all assigned to their corresponding fault surface. This means the workflow for generating fault polygons from interpretation data becomes much simpler than in other packages.

To select this option, set the "Fault type" to "Fault sticks" under the "Faults" tab in the "Grid/Create Grid" option.

The output grid and automatically generated fault polygons for the Gulfaks data set (top ness horizon) are displayed below:

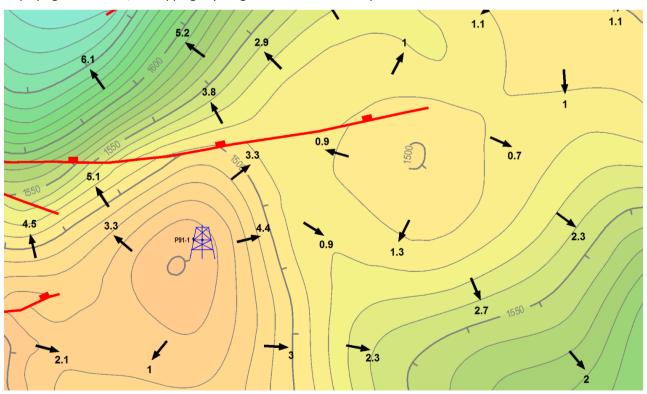


Fault sticks can be displayed in the Petrosys 3D Viewer application.



Improvements to Presentation Quality Mapping

Display GIS Directional Annotation Enhancements: GIS data with an orientation can now have annotation aligned with that orientation. This allows symbols that have an angular direction to have annotation that plots at that directional value. Directional GIS arrows and better labelling are useful for geological dip and azimuth maps, plotting micro-seismic parameters, displaying current data, or mapping anything with a directional component.



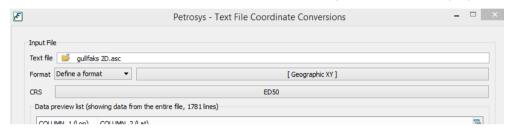
Directly Connected Subsurface Data Footprint Continues to Grow

Building on the established footprint of subsurface data types supported by Petrosys direct connections across a wide spectrum of E&P applications, Petrosys 17.7 provides a stronger than ever tool for the exchange of data.

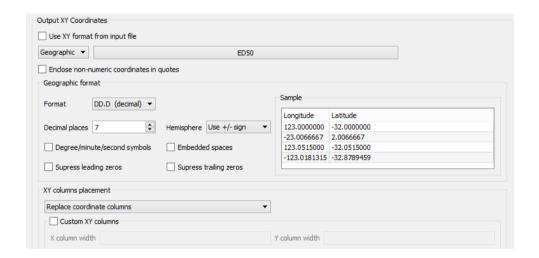
- Import seismic to SDF and dbMap from Trango, KDM, Finder and OpenWorks.
- Import 3D seismic surfaces from GeoFrame in the Surface Exchange tool.
- Export grids to OpenWorks and IHS Petra in the Grid Exchange tool.
- Import spatial data from MapInfo file into any GIS supported format in the Spatial Data Translator tool.
- Import Roxar Irap ASCII grid files directly to Petrosys grid files.

CRS Point Conversion Tool for Bulk Conversion of Coordinates

A new option to allow CRS conversion of a selected XY coordinate pairs is available in the Launcher under the menu option /CRS/Text File CRS Conversion. It is also available in the Surface Modeling application under the menu /File/Exchange/Text File CRS Conversion where it can be added to workflows and scripted for automation purposes



A rich set of options allow full control over the output file format. The output format can be explicitly defined or it can be set to match the input format file.



Online Help - How to Videos

Petrosys online help now contains hyperlinks to a selection of "how to" videos, hosted on the Petrosys YouTube channel, along with a range of contents updates. Look for this video playback button in the help:



Detailed Release Notes Summary 17.8.4

Enhancements

Connections, Import and Export

Third-party plugin environment data and connection errors are now included in diagnostics log file Connection Manager - Added a Reconnect button to cycle the connection, even when still in use

Connections, Import and Export - Esri

63424 Support added for embedded plugin in Esri ArcMap 10.5

Connections, Import and Export - Petrel

No longer listing redundant data domains for Petrel 3D surfaces and grids

61993 Added support to access well markers of type "Other" from Petrel

Connections, Import and Export - SEGY

62979 SEGY reading performance improvement by minimising disk access

Coordinate Reference Systems

62707 CRS database upgraded to EPSG 9.0

dbMap - Client

dbMap Wells - Formation TVDs for vertical wells are now computed (PPDM clients)

64634 PPDM3.8 Formation tops screen can now compute TVD

Mapping - General

63444 Display/Web Service Image includes support for Kerberos authentication

63739 New well symbols added depicting volcanoes

63504 Mapping measure function coordinate and distance information readability improved

Mapping - Wells

43666 Modified validity checks for Chronostrat markers when loading Reservoir Summaries into dbMap (Santos only)

Surface Modeling - Exchange

58932 Grid Exchange - Support added for CRS conversion

Well Import Wizard: SOURCE can be overridden when importing formation tops and checkshot surveys to dbMap (PPDM38)

64127 Surface Modeling Load Fault File upgraded to use new fault selection widget

Surface Modeling - General

62793 Workflow files overwrite dialog is wider

'Rename Task' option moved below 'Modify Task'

Surface Modeling - Volumetrics

39832 Grid-based-slice volumetrics CRS enabled and geometry restrictions relaxed

61645 Add ability to have additional levels for Volumetrics/Grid based slices

Detailed Release Notes Summary 17.8.4

Bug Fixes

3D Viewer - General

51064 Able to specify new directory when saving MPEG from 3D Viewer 63085 3DViewer Display/Point Data no longer displays gradient error

64395 Duplicate viewpoints no longer shown in Viewpoints list

Application - General

Data Caching - Crash fixed in rare situation

Application - Printing and Publication

64773 Chart - Export to PDF - Scaling of text and chart elements is now correct

Configuration - General

64481 Custom install script now supports Windows 10

Connections, Import and Export

<u>56335</u> OpenWorks/SeisWorks connections no longer create info debug lmk ps links.txt

Connections, Import and Export - IHS

64619 IHS Kingdom .tks file paths longer than 132 characters now supported

62192 Importing fault polygons from IHS Kingdom for a large number of horizons no longer causes file open errors

Connections, Import and Export - OpenWorks

64618 OpenWorks mapping polygons read from Interp projects use the correct CRS

63824 Velocities/Well Checkshot Depth Conversion - User-defined Well list data selection query now works

Connections, Import and Export - Paradigm-Epos

61485 Improved operating system version checking for Paradigm connections on Windows

dbMap - Client

63407 Deleting a dbMap 3D bin grid polygon now updates the spatial outline

58140 Petrel - Import well header to dbMap PPDM3.8 now loads reference depth type correctly 64761 dbMap/Desktop Well Log Curve screen for PPDM 3.8 clients no longer shows duplicate records

61761 Display Drilling Opportunity targets now shows depths in correct units (Santos only)

60446 Drilling Opportunity Targets now display from PLDB M6B

<u>62083</u> Temperature units field alignment fixed on dbMap Well Logs Run dialog (Santos only)

Mapping - Editors

<u>47314</u> Export of geographic coordinates from the Spatial Editor coordinates table works as expected

Mapping - General

64277 Improved error message when temporary picture cache file gets deleted from under a display layer

63603 Crash fixed when using BMP format image for titleblock logo

Mapping - GIS, Spatial and Culture

63758 The text file define file format dialog only allow selection of XY fields from enabled columns

Mapping - Seismic

63806 Display/2D Seismic - runtime parameters are now remembered for data selection queries of third-party

62974 Fixed crash due to out of memory when displaying 2D seismic contour cuts

64355 3D bin grids from dbMap can now be displayed without a data selection when using a dynamic map sheet

63267 Ribbon Map - Fixed hanging when zero increment is used

Mapping - Wells

63456 Corrected well formation top and thickness annotation location being reversed in some cases

<u>59764</u> Updated PPDM38 formation tops panel to base subsea depth on pick TVD over pick depth

Seismic (SDF) Editor

58810 SDF line length reports now calculate the correct distance when using a map sheet with a different CRS

Spatial Data Translator

62790 Fixed inability to write GIS data to Petrel when there were no windows open in Petrel

Surface Modeling - Exchange

- 64211 Well Import Wizard: Now correctly imports Petrel well symbol information when importing to WDF
- Improved user interface for Grid Exchange when outputting to Petrosys Grid files
- 64098 Fault stick selection is now restored correctly
- 62812 Gip file created by exchange task removes .gri suffix in file name
- 63432 Well Import Wizard: Fixed issue updating Driller TD upon subsequent imports into dbMap (PPDM38)

Surface Modeling - General

- 64603 Fault selection in gridding tasks alters back to previous selection after clicking on another tab
- 64669 Grid/Load Fault File honours trace line faults
- 64762 Grid/Processes/Arithmetic clipping tab tooltips corrected

Surface Modeling - Gridding

- Trend gridding no longer fails with file opening error when smoothing is enabled
- 64617 Gridding now succeeds when gridding inside fault polygons is enabled and all fault polygons are outside AOI
- 63566 Grid/Create tasks map sheet in Geometry left aligned to be consistent with other fields

Surface Modeling - Workflows/Scripting

- 62248 Crash when modifying task properties has been fixed
- 64254 Fixed crash in Tools/Draw Map when Create plot is enabled

Wells (WDF) Editor

48765 WDF computed attributes containing functions are now able to be used in Mapping and Surface Modeling

Petrosys Release 17.8.4

Detailed Release Notes

3D Viewer - General

Bug Fixes

Able to specify new directory when saving MPEG from 3D Viewer

51064

Saving MPEG movie allows to create/change the file path and file name.

3DViewer Display/Point Data no longer displays gradient error 63085

There is no gradient pop up error when displaying the following display types: Grid/3D Seismic Surface, Fault Sticks, Fault Surfaces, Point Data

Duplicate viewpoints no longer shown in Viewpoints list 64395

Reading viewpoints in Viewpoints List panel does not produce duplicate entries.

Application - General

Bug Fixes

Data Caching - Crash fixed in rare situation

64142

A crash that might rarely occur in the data cache sub-system has been fixed. This crash could occur when opening a dbm file in Mapping whilst other events where being processed.

Application - Printing and Publication

Bug Fixes

Chart - Export to PDF - Scaling of text and chart elements is now correct

64773

Exporting a chart display to PDF will now scale the text and chart elements correctly. Previously if the DPI set was less than 1200 the elements would be scaled a lot larger than expected.

Configuration - General

Bug Fixes

Custom install script now supports Windows 10 64481

The Windows custom install script, custom install.vbs, now supports Windows 10.

This script can be used to do bulk rollouts and installation of the software.

Connections, Import and Export Enhancements

Third-party plugin environment data and connection errors are now included in diagnostics log file 61600

When connecting to third-party data sources like OpenWorks, SeisWorks, GeoFrame and Paradigm-EPOS, a .stderr file is generated in the current Petrosys project directory, which contains environment data and any errors that occur while trying to connect. This information is now included in the log file from File/Preferences/Diagnostics when if it has been turned on prior to connecting, making it easier to gather debugging data to send to Petrosys support.

Connection Manager - Added a Reconnect button to cycle the connection, even when still in use

The Petrosys Connection Manager now has a Reconnect button that allows the user to quickly cycle a connect (i.e. Disconnect and Connect).

This is especially useful for third-party data sources like GeoFrame or Paradigm, for example, where recent data changes made in the third-party application may not available in Petrosys due to caching by the server connection. This cache can only be cleared by reconnecting to the data source within Petrosys.

Connections, Import and Export

Bug Fixes

OpenWorks/SeisWorks connections no longer create info debug lmk ps links.txt 56335

When connecting to OpenWorks or SeisWorks, the info_debug_lmk_ps_links.txt file, which contained environment and connection error information, is no longer created or appended to in the Petrosys project directory. This has caused problems at some sites, as the same file is used by all users, and if the file permissions were not set so that it was writeable by all users, some users would not be able to connect to OpenWorks and SeisWorks in that project.

User specific .stderr files are now created instead to avoid this problem. These are also created as new each time you connect, rather than being appended to, so the files will not become large.

<u>Connections, Import and Export - Esri Enhancements</u>

Support added for embedded plugin in Esri ArcMap 10.5 63424

Support has been added for ArcMap version 10.5 for the embedded ArcMap plugin. The embedded ArcMap plugin allows Petrosys grid, contour and fault files to be rendered directly within the ArcMap application

Connections, Import and Export - IHS

Bug Fixes

IHS Kingdom .tks file paths longer than 132 characters now supported

64619

Support for IHS Kingdom .tks files that are in deep folders has been fixed. Previously if the total folder and file name length was greater than 132 characters the file name would be truncated leading to connection issues.

Importing fault polygons from IHS Kingdom for a large number of horizons no longer causes file open errors 62192

File opening errors have been fixed when importing fault polygons from IHS Kingdom projects with a large number of horizons.

Connections, Import and Export - OpenWorks Bug Fixes

OpenWorks mapping polygons read from Interp projects use the correct CRS 64618

A bug has been fixed that was causing OpenWorks Mapping Poly Sets being read from or written to an interpretive project view to use the incorrect CRS.

Velocities/Well Checkshot Depth Conversion - User-defined Well list data selection query now works 63824

The User-defined data selection option on the Surface Modeling/Velocities/Well Checkshot Depth Conversion dialog now correctly filters wells when using the Misc: OpenWorks Well List query .

Connections, Import and Export - Paradigm-EposBug Fixes

Improved operating system version checking for Paradigm connections on Windows 61485

With the introduction of Windows 10, some earlier version of Paradigm (that are still supported by Petrosys), will no longer run on this version of the operating system. Petrosys now checks the correct required platform version information to stop a connection to those earlier versions of Paradigm not supported on later versions of Windows.

Connections, Import and Export - Petrel Enhancements

No longer listing redundant data domains for Petrel 3D surfaces and grids 51574

Previously, a grid or surface with a TWT attribute would be shown twice in a Petrosys grid selector with both ELEVATION_TIME and TWT domains. These redundant grid and surface selections have now been removed and in this case, only TWT will be available for selection.

Added support to access well markers of type "Other" from Petrel 61993

Well markers from the "Others" folder of a Petrel well marker collection can now be accessed in Petrosys Mapping, Surface Modeling and 3D Viewer.

Connections, Import and Export - SEGY Enhancements

SEGY reading performance improvement by minimising disk access 62979

Performance of reading stacking velocities from SEGY files is improved especially for the case where the SEGY files are located on network drives.

<u>Coordinate Reference Systems</u> <u>Enhancements</u>

CRS database upgraded to EPSG 9.0

62707

The EPSG CRS data available within Petrosys has been upgraded from version 8.9 to version 9.0. Please refer to http://www.epsg.org for specific details of changes between these versions.

dbMap Wells - Formation TVDs for vertical wells are now computed (PPDM clients) 57981

The Lists/Wells/dbMap/Edit/Selected Wells/Compute formation TVD option now supports computing the TVDs for wells that are flagged as vertical to match the measured depth. Previously these wells were skipped if they did not have a directional survey defined.

This is only supported for Petrosys-dbMap PPDM clients that have a Profile type or Hole trajectory flag on the well header, to indicate that a well is vertical.

PPDM3.8 Formation tops screen can now compute TVD 64634

Petrosys dbMap PPDM3.8 clients now have the ability to compute formation top TVD values on the well formation dialog.

The Compute TVD button calculates the Pick TVD values using the preferred directional survey for either the currently selected formation top, or all formation tops for the current well.

dbMap - Client

Bug Fixes

Deleting a dbMap 3D bin grid polygon now updates the spatial outline

Deleting a polygon outline from a dbMap 3D seismic bin grid now correctly updates the database spatial outline.

Previously, the deleted polygon would remain visible via the PETROSYS BIN GRIDS database view.

Petrel - Import well header to dbMap PPDM3.8 now loads reference depth type correctly 58140

For dbMap PPDM3.8 clients, importing well data from Petrel using the Wells Import Wizard, now correctly loads the well header Reference depth type (KB, RT, etc)

dbMap/Desktop Well Log Curve screen for PPDM 3.8 clients no longer shows duplicate records 64761

The dbMap Well Log Curve screen for PPDM 3.8 clients could display duplicate records in the list depending on the log curve dictionary being referenced. The screen has been fixed to no longer display duplicate records in the list.

Display Drilling Opportunity targets now shows depths in correct units (Santos only) 61761

MAPPING/Display/Prospects/Drilling Opportunities now displays target depths in the correct units based on the Depth units option.

Previously, target depths were shown in feet when Metric was selected, and large incorrect values were shown then Imperial was selected.

Drilling Opportunity Targets now display from PLDB M6B 60446

The Display/Prospects/Drilling opportunities option has been upgraded to support database structure changes for PLDB Milestone 6B

Temperature units field alignment fixed on dbMap Well Logs Run dialog (Santos only) 62083

The Santos dbMap Well Logs run dialog now shows the Temperature units aligned correctly with the field. Previously the units appeared on the far right of the screen.

Mapping - Editors

Bug Fixes

Export of geographic coordinates from the Spatial Editor coordinates table works as expected 47314

In the spatial editor, the right mouse options "Export to Excel.." and "Export to Text File" from the "Coordinates" table now write geographic coordinates correctly to the output file.

Mapping - General

Enhancements

Display/Web Service Image includes support for Kerberos authentication

6344

Support for authentication using Kerberos has been added to the Display/Web Map Service option. This is available in the dialog under the name "Operating System" authentication (which also used to select NTLM authentication).

New well symbols added depicting volcanoes 637.

New well symbols have been added to depict a volcano. One is un-filled and one is filled. These are symbol numbers 961 and 962 respectively.

Mapping measure function coordinate and distance information readability improved 63504

The readability of the coordinate and distance information in the status bar (bottom) of the map window has been improved. The coordinates are now shown in brackets and the segment and cumulative distance is shown more clearly.

Mapping - General

Bug Fixes

Improved error message when temporary picture cache file gets deleted from under a display layer

The error message that appears when files that are used for caching the display of certain data are deleted is now much improved. The error message now helps point out what might have caused the file to be deleted and which layers on the map are affected. Usually this error is caused by temp file cleanup scripts that clean out files that are in use from the temporary file directory (e.g. /tmp on Linux).

Crash fixed when using BMP format image for titleblock logo 63603

A crash has been fixed when a Windows BMP format image file was used in a titleblock.

Mapping - GIS, Spatial and Culture

Bug Fixes

The text file define file format dialog only allow selection of XY fields from enabled columns 63758

In previous versions the X and Y field selectors incorrectly included columns that had been explicitly disabled.

Mapping - Seismic

Bug Fixes

Display/2D Seismic - runtime parameters are now remembered for data selection queries of third-party connections 63806

When using a database query to filter the display of 2D seismic lines from third party data sources, such as OpenWorks, run time parameters are now remembered when modifying the layer.

Previously, if you modified the 2D seismic layer, and changed something like the line color, no lines would appear on the map.

Fixed crash due to out of memory when displaying 2D seismic contour cuts

In previous versions, Mapping may crash due to running out of memory when displaying 2D seismic data contour cuts. This has been fixed.

3D bin grids from dbMap can now be displayed without a data selection when using a dynamic map sheet 64355

A bug has been fixed which caused no Petrosys dbMap 3D bin grids to display on a dynamic map sheet when data selection filtering was disabled.

Ribbon Map - Fixed hanging when zero increment is used 63267

The Seismic Ribbon Map display has been improved to handle invalid input data correctly, where previously this data could cause the option to freeze the application.

<u>Mapping - Wells</u>

Enhancements

Modified validity checks for Chronostrat markers when loading Reservoir Summaries into dbMap (Santos only) 43666

When creating new or editing existing Reservoir Summary data for Chronostrat markers, interval checking is now done using only regionally correlated markers and ignores any unconformity or local markers.

Mapping - Wells

Bug Fixes

Corrected well formation top and thickness annotation location being reversed in some cases 63456

When annotating formation tops or thicknesses, the annotation location could become reversed in some cases where annotations set to be above a point were made below and vice-versa. This has now been fixed and the annotation location is now honoured for all cases.

Updated PPDM38 formation tops panel to base subsea depth on pick TVD over pick depth 59764

Previously, the subsea depth was computed from the pick depth field. Now the pick TVD is used in preference over the pick depth to compute the subsea depth.

Seismic (SDF) Editor

Bug Fixes

SDF line length reports now calculate the correct distance when using a map sheet with a different CRS

The SDF Line Length report now correctly calculates the length of a line when using a map sheet that has a different CRS to that of the SDF.

Spatial Data Translator

Bug Fixes

Fixed inability to write GIS data to Petrel when there were no windows open in Petrel

Writing GIS data to Petrel would stop prematurely when there were no windows open in the Petrel project. This has now been fixed.

<u>Surface Modeling - Exchange</u> <u>Enhancements</u>

Grid Exchange - Support added for CRS conversion 58932

The Grid Exchange option now has support for CRS conversion. The grids will be CRS converted as long as there is a valid transformation for the source and destination CRSes. A confirmation dialog will be displayed to allow the user to control whether the conversion should proceed.

Well Import Wizard: SOURCE can be overridden when importing formation tops and checkshot surveys to dbMap (PPDM38)

The user now has the ability to optionally override the formation tops and checkshot survey SOURCE when importing well data into a PPDM3.8 dbMap database.

Surface Modeling Load Fault File upgraded to use new fault selection widget

In previous versions, the Surface Modeling option Grid/Load Fault File... did not support OpenWorks connection.

Now OpenWorks connection is supported and the previous tasks which use SeisWorks projects can also be opened and then upgraded to using OpenWorks connections.

Surface Modeling - Exchange

Bug Fixes

Well Import Wizard: Now correctly imports Petrel well symbol information when importing to WDF

A bug has been fixed whereby well symbol values were not being translated correctly to the Petrosys Well Symbol catalogue when importing wells from Petrel into a WDF.

Improved user interface for Grid Exchange when outputting to Petrosys **Grid files** 56021

When outputting grids to Petrosys grid file, it wasn't clear the user interface was expecting an output directory. A new 'Output directory' label and improved error messages have been added.

Fault stick selection is now restored correctly 64098

In previous versions in surface modeling task 'Exchange/Fault Sticks' fault sticks selection could not be restored from saved .tsk. This now has been fixed.

Gip file created by exchange task removes .gri suffix in file name

The gip file name follows the output grid name and the file is stored in the same directory as the output grid.

Well Import Wizard: Fixed issue updating Driller TD upon subsequent imports into dbMap (PPDM38) 63432

A bug has been fixed that caused incorrect merging of the well header field Drillers TD upon subsequent imports into a PPDM3.8 dbMap database.

Surface Modeling - General

Enhancements

Workflow files overwrite dialog is wider

62793

62812

Files overwrite dialog has been made wider for easier reading.

'Rename Task' option moved below 'Modify Task' 64506

Moved 'Rename Task' under 'Modify Task...' option.

Surface Modeling - General

Bug Fixes

Fault selection in gridding tasks alters back to previous selection after clicking on another tab

Grid/Create Grid fault selection is remembered after clicking to other tabs and then returning to Fault tab.

Grid/Load Fault File honours trace line faults 64

In previous version 'Grid/Load Fault File' fault trace lines became fault polylines after being loaded into Petrosys grid file. It now has been fixed.

Grid/Processes/Arithmetic clipping tab tooltips corrected 64762

Grid/Process/Arithmetic clipping polygons 'Select All' and 'Select None' buttons have correct tooltips.

Surface Modeling - Gridding

Bug Fixes

Trend gridding no longer fails with file opening error when smoothing is enabled

Trend gridding with smoothing enabled now works correctly.

Gridding now succeeds when gridding inside fault polygons is enabled and all fault polygons are outside AOI 64617

Gridding finishes successfully when gridding inside fault polygons option is enabled and all fault polygons lie outside the gridding area of interest. Previously gridding reported a failure in this scenario.

Grid/Create tasks map sheet in Geometry left aligned to be consistent with other fields 63566

Mapsheet name in Geometry tab has been left aligned to be consistent with other fields.

Surface Modeling - Volumetrics Enhancements

Grid-based-slice volumetrics CRS enabled and geometry restrictions relaxed

Restrictions for Top/Base grid-based slice volumetrics have been relaxed, with non-empty overlap only now required to run calculations.

Also Merge/Overlay options error notifications have changed. Grids no longer have to match geometrically, instead they have to have non-empty overlap and be co-nodular.

Add ability to have additional levels for Volumetrics/Grid based slices

Additional levels have been added for Volumetrics/Grid based slices option.

Surface Modeling - Workflows/Scripting Bug Fixes

Crash when modifying task properties has been fixed 62248

In previous versions Surface Modeling may have crashed when opening a task panel via the Modify option and the task was created by copying and pasting an existing task. This has been fixed.

Fixed crash in Tools/Draw Map when Create plot is enabled 64254

Tools/DrawMap does not crash when Create plot is selected and the workflow is run repeatedly in the same session.

Wells (WDF) Editor

Bug Fixes

WDF computed attributes containing functions are now able to be used in Mapping and Surface Modeling 48765

If you have created a computed attribute in a WDF that makes use of a function, such as POW, it can now be displayed in Mapping and used to create grids in Surface Modeling.

Previously, a computed attribute like this could be viewed in the WDF Editor spreadsheet, but nothing appeared when used in Mapping or Surface Modeling.

Detailed Release Notes Summary 17.8.3

Enhancements

Application - General

42008 'File Manager (Explorer)' option added to the File menu in the Mapping, 3dViewer and Surface Modeling applications

Application - User Interface

62324 Redesigned Fault Polygon selection user interface

Connections, Import and Export - IHS

40162 Support added for reading Fault Sticks from IHS Kingdom

Connections, Import and Export - OpenWorks

50729 Added OpenWorks Mapping Poly Sets as an input and output data source to Spatial Data Translator

61873 Added reading of OpenWorks Mapping Poly Sets

24288 Accessing fault polygons from Landmark now uses an OpenWorks connection

63404 Performance improvement for retrieving list of SeisWorks fault sticks

Mapping - General

63235 Support added for display of raster imagery from non-tiled ArcGIS web map services

Surface Modeling - Gridding

64150 Mistie report in Well Tie now shows relative value for Correction column

Surface Modeling - Workflows/Scripting

56555 Automatic substitution of Petrel project names in Spatial Data Translator tasks

Detailed Release Notes Summary 17.8.3

Bug Fixes

3D Viewer - General

Hang when Petrel triangulated grids are displayed and updated fixed Crash when using a Map File layer and then updating the layer fixed

Mapping - Editors

63408 Spatial editor shows modified regions correctly for grid input data when polygon clip is used

Mapping - General

34590 Support added for NTLM proxy server authentication

Display/Web Map Service prompts for proxy server user name and password Drag and drop of files onto the Mapping window from Linux works again

Mapping - Map Sheets

63594 Placement of map elements in zoom area now works correctly

Mapping - Publication

63531 File/Export/Raster supports the "map contents only" option correctly

Mapping - Wells

25594 Display/Wells/Wdf - Well annotation offset now supports decimal values

Spatial Editor

 $\underline{^{64032}}$

Spatial Editor no longer corrupts the shapefile that is displayed via Display/GIS

63372 Grid editing operations correctly handle editing a grid on a map sheet with a different CRS

Surface Modeling - Exchange

63573 Grid Exchange - OpenWorks output field names are now consistent with Landmark software

63406 Fixed Exchange writing SeisWorks fault sticks

Surface Modeling - Gridding

63809 Grid/Create Grid - gridding inside faults pops up gridding progress dialog for each fault gridded

Petrosys Release 17.8.3

Detailed Release Notes

3D Viewer - General

Bug Fixes

Hang when Petrel triangulated grids are displayed and updated fixed

Petrel triangulated grids display works correctly. Previously, displaying a Petrel triangulated grid could cause the 3D Viewer to hang.

Crash when using a Map File layer and then updating the layer fixed

Map File layers display now works correctly in all cases. Previously the application could crash if the layer properties were modified after it was created.

Application - General

Enhancements

'File Manager (Explorer)' option added to the File menu in the Mapping, 3dViewer and Surface Modeling applications

The 'File Manager (Explorer)' option from the File menu in the Launcher window has also been added to the File menu in the Mapping, 3dViewer and Surface Modeling applications. This option launches the local operating system file manager to allow you to browse the files in the project directory/folder.

<u>Application - User Interface</u> <u>Enhancements</u>

Redesigned Fault Polygon selection user interface62324

The user interface for selecting Fault Polygons has been redesigned in Mapping, Display/Faults and on the Fault tab of the following processes in Surface Modeling; Grid/Create Grid, Grid/Well tie, Grid/Phantom and Grid/Processes/Arithmetic.

Connections, Import and Export - IHS Enhancements

Support added for reading Fault Sticks from IHS Kingdom

40162

Initial support for reading fault sticks from IHS Kingdom has been added to the following options:

- Surface Modeling Grid/Create Grid
- Exchange/Fault Sticks
- > 3D viewer/Display/Fault Sticks

Due to the wide variation of fault stick data in Kingdom projects, this functionality has been marked as a 'Functionality Preview'. This means that it has not been extensively tested with a broad range of data by Petrosys. Please carefully check the results to ensure the correct fault sticks have been extracted and contact Petrosys support if you encounter issues with your fault stick data.

<u>Connections, Import and Export - OpenWorksEnhancements</u>

Added OpenWorks Mapping Poly Sets as an input and output data source to Spatial Data Translator 50729

OpenWorks Mapping Poly Sets has been made available for reading and writing in the Spatial Data Translator. This allows the easy loading of polygons into OpenWorks from all supported data types, with full support for all 'Polygon Set' data types.

Added reading of OpenWorks Mapping Poly Sets 61873

Petrosys now has the ability to read all types of Mapping Poly Sets from OpenWorks as a GIS data source. Fault Polygons is one example of a Mapping Poly Set type, which we read specifically as a fault data type. OpenWorks is now an available data source for direct display in Mapping under Display/GIS, as well as an input in the Spatial Data Translator. In both cases all types of Mapping Poly Sets are made available (including Fault Polygons) to be read as generic GIS data. This functionality now also allows users to utilise Polygon Type information for Inclusive and Exclusive when reading Mapping Poly Sets from OpenWorks.

Accessing fault polygons from Landmark now uses an OpenWorks connection 24288

Previously, to access Fault Polygons from an OpenWorks project the user needed to setup and use a SeisWorks based connection. This requirement has now been removed and all features accessing Fault Polygons from Landmark projects now use an OpenWorks connection. This includes, but not limited to, direct display of Fault Polygons in Mapping and the use of Fault Polygons to create grids in Surface Modeling.

Existing DBM and TSK files that previously used a SeisWorks connection to access Fault Polygons will be upgraded to use the new method of access through the OpenWorks connection. This will be done automatically upon opening/loading one of these existing files.

Performance improvement for retrieving list of SeisWorks fault sticks

63404

The amount of time needed to retrieve the list of SeisWorks fault sticks has been significantly improved by utilising the connection to the OpenWorks Oracle database. This change has a positive effect on the opening of dialogs that display lists of fault sticks from SeisWorks in Surface Modeling and 3D Viewer.

Mapping - Editors

Bug Fixes

Spatial editor shows modified regions correctly for grid input data when polygon clip is used 63408

When grids are edited using the spatial editor, the localised regridding option allows regridding of just the AOI in which edits have been made. In previous versions, the polygon clip option would incorrectly flag contours or faults as modified that were outside the polygon being used for clipping.

<u>Mapping - General</u> <u>Enhancements</u>

Support added for display of raster imagery from non-tiled ArcGIS web map services 63235

Petrosys now supports display of images from ArcGIS server web services via a "map export". This is supported for all types of map services, including those based on a tile cache, and allows customisation of layers to display (when supported by the service).

Mapping - General

Bug Fixes

Support added for NTLM proxy server authentication 34590

Proxy server authentication using the NTLM protocol is now supported. No explicit change is required to enable this.

Display/Web Map Service prompts for proxy server user name and password 63760

In version 17.8.2, the Display/Web Map Service option did not prompt to enter the user name and password required to access a configured proxy server.

Drag and drop of files onto the Mapping window from Linux works again

6366

Version 17.8.1 introduced a bug where, on Linux, drag-and-drop of files onto the Mapping window did not work as expected. This problem has now been fixed.

Mapping - Map Sheets

Bug Fixes

Placement of map elements in zoom area now works correctly 63594

Fixed intermittent crash of placing map elements in zoom area.

Mapping - Publication

Bug Fixes

File/Export/Raster supports the "map contents only" option correctly

63531

In Petrosys version 17.8sp2, the "map contents only" option was not honoured when exporting a map to a raster image.

Mapping - Wells

Bug Fixes

Display/Wells/Wdf - Well annotation offset now supports decimal values

25594

The display of well data from a WDF now allows the text offsets for well header and zone items to now use decimal values. This allows more precision when annotating wells.

Spatial Editor

Bug Fixes

Intermittent crash when smoothing faults in the Spatial Editor no longer occurs 64032

A bug was introduced in version 17.8.1, that could result in a crash when operations (such as smoothing) were performed on certain faults.

Spatial Editor no longer corrupts the shapefile that is displayed via Display/GIS 63217

In previous versions, saving a shapefile in the Spatial Editor while the shapefile was also displayed on the map via Display/GIS could corrupt the shapefile. This is now fixed.

Grid editing operations correctly handle editing a grid on a map sheet with a different CRS 63372

The following grid based operations in the spatial editor did not work as expected if the grid CRS was different to the map sheet CRS:

- > Interpolation of missing grid values
- Grid circle based relative adjustment
- Display of grid values (symbols and text)
- > Grid edit single node (specifically the post-edit redraw and recontouring steps)

These now handle CRS conversion correctly.

Surface Modeling - Exchange

Bug Fixes

Grid Exchange - OpenWorks output field names are now consistent with Landmark software

The field labels shown in the Grid Exchange user interface when using OpenWorks as an output data source have been updated to use the same terminology as a user would see in the majority of Landmark applications. This has been done to alleviate some confusion as to what each field is used for when writing the grid to OpenWorks and then being able to find it in Landmark applications.

Fixed Exchange writing SeisWorks fault sticks 63406

Writing fault sticks to SeisWorks projects now works correctly. Previously, an Exchange task that wrote to SeisWorks fault sticks task could fail.

Surface Modeling - Gridding Enhancements

Mistie report in Well Tie now shows relative value for Correction column

Well tie mistie report shows the correction values as relative values in addition to the absolute values. The new column header has been named Rel Correction.

Surface Modeling - Gridding

Bug Fixes

Grid/Create Grid - gridding inside faults pops up gridding progress dialog for each fault gridded 63809

Gridding inside fault polygons option only shows overall progress for all fault polygons rather than individual fault polygons progress bars.

<u>Surface Modeling - Workflows/Scripting Enhancements</u>

Automatic substitution of Petrel project names in Spatial Data Translator tasks

The Petrel project name is automatically substituted with the current Petrel connection name. This makes it easier to re-use a Spatial Data Translator task with different Petrel projects.

Detailed Release Notes Summary 17.8.2

Enhancements

Application - Printing and Publication

62700 Export Raster default compression for PNG images increased to produce smaller files with same quality level

Application - User Interface

60370 Lookup lists for database fields, search functionality now selects the item found

41061 Gradient - Fixed custom range - Improved keyboard entry of min/max Z-values

Connections, Import and Export

Support added for importing ER Mapper .ers files into Petrosys grids

62863 Added in support for displaying Windows BMP format raster image files in Mapping

Connections, Import and Export - Petrel

62539 Added Petrel drag and drop support for Model Faults

Coordinate Reference Systems

62017 Support for Robinson, Bonne, Cassini, Gall Stereographic and Times projections added

52445 EPSG CRS database upgraded to 8.9

Mapping - Editors

60916 Drag and drop layers from Mapping directly into grid layers in the Spatial Editor

Mapping - General

32070 Support for displaying raster data from tiled web map services

24333 Support added for accessing web services via https

Mapping - GIS, Spatial and Culture

62773 Removed point limit on use of outline fill for polygon style

Mapping - Wells

62770 New star well symbols added

Surface Modeling - Exchange

62892 Well Import Wizard: Updates to client configuration (Origin only)

Surface Modeling - General

59322 Improvements to make it easier to clear cached data, including in workflows

Surface Modeling - Gridding

34550 Grid/Create Grid can now create fault polygon surface data on the fly when creating grids

Surface Modeling - Volumetrics

60317 Volumetrics CSV reports for depth/volume, depth/area/thickness and other data

Detailed Release Notes Summary 17.8.2

Bug Fixes

3D Viewer - General

Update and Update All display list functions reinstated

Application - General

59798 Database upgrade more robust (Windows only)

Application - User Interface

63227 Fixed alignment of Magnetic Declination direction field on the Well Directional Survey header dialog

Configuration - Licensing

SafeNet Sentinel driver version now supports Windows 8+

Connections, Import and Export

59697 Raster Image Export sets the image dpi/physical size correctly

Connections, Import and Export - Esri

40740 Esri File Geodatabase display performance significantly improved

Connections, Import and Export - OpenWorks

62514 Reading fault sticks from large SeisWorks project in Create Grid task is now faster

Connections, Import and Export - Paradigm-Epos

62908 Paradigm 3D seismic data now shown when connected to survey

Connections, Import and Export - Petrel

62653 Added Petrel drag and drop support for grids located in interpretation folders outside of the seismic root

Exchange 3D Seismic Surface: All Petrel horizon data types are now read

62687 Added Petrel drag and drop support for grids located in standard Petrel folders within an interpretation folder

62658 Petrel fault sticks path is now reported correctly when it is not under seismic root

dbMap - Client

60953 Computing formation TVDs now supported for PPDM3.8 dbMap wells

dbMap/Web - General

49467 Display Bubble Map filter option of Text and Excel preview list is now disabled

Documentation - Online Help

63020 Updated help documentation with information relevant to supporting Paradigm 15.5

Mapping - General

35939 Thematically mapped point and line data appears correctly in legends

61512 Display List crash when re-ordering layers and using undo is now fixed

60852 Map elements: Legend now has the correct location and highlight box

Mapping - Map Sheets

Map Elements can now be placed in current map zoom area

60833 Loading a dbm without loading the map sheet now positions map elements correctly

62320 Displaying title block highlight box is now erased if the title block is disabled

Mapping - Wells

60550 Filtering of wells now handles NULLs returned by Santos web service

Surface Modeling - Exchange

Well Import Wizard now correctly imports thirdparty data source well symbol information when importing to PPDM3.8 dbMap database

61752 Well Import Wizard now allows Well Primary Source to be specified (PPDM3.8 only)

Surface Modeling - General

61833 Surface Modeling task list is always visible

52558 Zone button name shows correct zone name when the zone value is scripted
 52497 Selecting feature class if no File Geodatabase is selected works correctly

Surface Modeling - Gridding

 $\underline{\tt 62869}$ Store runtime modified variogram parameters to task content after task run

61899 Gridding fault sticks generates correct fault polygons if fault sticks have different CRS than output grid

Petrosys Release 17.8.2

Detailed Release Notes

3D Viewer - General

Bug Fixes

Update and Update All display list functions reinstated 56432

UI options "Updated All" and "Update Selected" have been reinstated to the 3D Viewer.

Application - General

Bug Fixes

Database upgrade more robust (Windows only) 59798

The application Upgrade Database now handles backup directory more robustly on Windows. In previous version, the application would fail if the backup directory was not set to project directory.

Application - Printing and Publication Enhancements

Export Raster default compression for PNG images increased to produce smaller files with same quality level 62700

The default compression level for saving PNG images from the /File/Export/Raster image option has been increased from 3 to 8. This can significantly decrease the resultant size of the PNG file without affecting the image quality.

<u>Application - User Interface</u>

Enhancements

Lookup lists for database fields, search functionality now selects the item found 60370

When searching for items in the selection lists used for database lookup fields, the item found by the search will be automatically selected. I.e. the blue selection highlight will follow the green selection highlight of the search.

Gradient - Fixed custom range - Improved keyboard entry of min/max Z-values

The entry of the minimum and maximum values using the keyboard for a gradient is now much easier. Previously trying to type in values with a decimal point caused the cursor and values to jump around making it difficult to type in the precise number required.

Application - User Interface

Bug Fixes

Fixed alignment of Magnetic Declination direction field on the Well Directional Survey header dialog 63227

The alignment of the Well Directional Survey magnetic declination direction lookup button has been modified to show the information next to the magnetic declination value. The lookup button was previously located off to the far right and could be missed when looking through a Wells Directional Survey header information.

Configuration - Licensing

Bug Fixes

SafeNet Sentinel driver version now supports Windows 8+ 56128

The SafeNet (Gemalto) Sentinel dongle driver now installed when using a dongle for licensing has been upgraded to version 7.5.8 to better support Windows 8 and above.

If using a server based license, the service may need to be restarted after the installer and associated driver configuration has completed. This can take several minutes.

Connections, Import and Export Enhancements

Support added for importing ER Mapper .ers files into Petrosys grids

ER Mapper .ers files can now be imported to Petrosys grid files using the '/Import/Raster (TIFF, ECW, BIL, ADF, IMG, ERS)...' option from the Launcher or Surface Modeling application.

Added in support for displaying Windows BMP format raster image files in Mapping 62863

Support for displaying Windows BMP format raster files has been re-added to Mapping.

Connections, Import and Export

Bug Fixes

Raster Image Export sets the image dpi/physical size correctly 59697

Raster images exported via the option 'File/Export/Raster Image..' will now have the correct image dpi set in the metadata of the resultant raster file.

Connections, Import and Export - Esri

Bug Fixes

Esri File Geodatabase display performance significantly improved 40740

The display and interaction performance of Esri File Geodatabases has been significantly improved. The largest improvement in performance will be seen when displaying a small subset of data from a much larger dataset.

Connections, Import and Export - OpenWorks Bug Fixes

Reading fault sticks from large SeisWorks project in Create Grid task is now faster 62514

In previous versions, it took long time to read fault sticks data types from SeisWorks project if there were many fault sticks surfaces in that project. This has now been fixed.

Connections, Import and Export - Paradigm-EposBug Fixes

Paradigm 3D seismic data now shown when connected to survey 62908

In previous versions, reading 3D seismic surface from Paradigm EPOS did not work if the 3D survey was directly connected. This has now been fixed.

Connections, Import and Export - Petrel Enhancements

Added Petrel drag and drop support for Model Faults 62539

Model faults can now be selected using drag and drop. For mapping, the model faults cannot be selected individually, but the associated faults are now brought across automatically when dragging a model horizon.

Connections, Import and Export - Petrel

Bug Fixes

Added Petrel drag and drop support for grids located in interpretation folders outside of the seismic root

Grids can now be located outside of the Petrel seismic root folder and be used with the Petrel drag and drop link.

Exchange 3D Seismic Surface: All Petrel horizon data types are now read 56494

A bug has been fixed in 3D Seismic Surface Exchange, which was limiting the data types for Petrel as an input data source, to only have ELEVATION TIME and / or ELEVATION DEPTH. The list of data types is now correctly populated from all the 3D Seismic Surfaces in the connected Petrel project.

Added Petrel drag and drop support for grids located in standard Petrel folders within an interpretation folder

Grids can now be located within standard Petrel folders which are children of seismic interpretation folders and be used with the Petrel drag and drop link.

Petrel fault sticks path is now reported correctly when it is not under seismic root

The folder reported for fault sticks located outside of the Petrel seismic root folder are no longer prefixed with "Seismic/"

Coordinate Reference Systems **Enhancements**

Support for Robinson, Bonne, Cassini, Gall Stereographic and Times projections added

Petrosys includes support for the following projection types: Robinson, Bonne, Cassini, Gall Stereographic and Times

EPSG CRS database upgraded to 8.9

The EPSG CRS data available within Petrosys has been upgraded from version 8.5 to version 8.9.0. Please refer to http://www.epsg.org for specific details of changes between these versions.

dbMap - Client

Bug Fixes

Computing formation TVDs now supported for PPDM3.8 dbMap wells

For dbMap PPDM3.8 clients, the Mapping/Lists/Wells/dbMap/Edit/Selected wells/Compute formation TVDs option is now supported.

Previously the option was available, but it did not compute any formation TVD values.

dbMap/Web - General

Bug Fixes

Display Bubble Map filter option of Text and Excel preview list is now disabled 49467

The Display/Bubble Map... option now has the Filter option of the Text and Excel preview list disabled. The Filter option is confusing some users as they expected the filtered out values not to be displayed on the map.

Documentation - Online Help

Bug Fixes

Updated help documentation with information relevant to supporting Paradigm 15.5

The Paradigm connections topic has been updated with information relevant to supporting for Paradigm 15.5.

Mapping - Editors

Enhancements

Drag and drop layers from Mapping directly into grid layers in the Spatial Editor 60916

Spatial Editor now supports drag and drop layers directly from Mapping Display list to its grid layer.

Mapping - General

Enhancements

Support for displaying raster data from tiled web map services

32070

Support has been added for displaying tiled raster imagery from web sources:

- > WMTS
- ArcGIS server
- Bing Maps (requires a Bing Maps license, which is not provided by Petrosys)

This functionality is available in a new Display/Web Service Image display option in Mapping.

Support added for accessing web services via https²⁴³³³

Display of web data supports access via secure https addresses. This includes the existing WMS display options and the newly added tiled raster display option. The https relies on certificates located in the standard operating system locations.

Please contact your IT system administrator for assistance with installing security certificates.

Mapping - General

Bug Fixes

Thematically mapped point and line data appears correctly in legends

Thematically mapped GIS point data now appears correctly in Legend.

Display List crash when re-ordering layers and using undo is now fixed

A crash that could occur when reordering the display list layers in Mapping, particularly when dragging layers into sub groups, has now been fixed.

Map elements: Legend now has the correct location and highlight box

60852

Fixed bug where legend has incorrect highlight bounding box when its dimension is changed.

Mapping - GIS, Spatial and Culture Enhancements

Removed point limit on use of outline fill for polygon style 62773

The 6,000 polygon point limit for filling polygons with a percentage fill width has been removed. Now any size polygon will work with this fill width percentage. For example when displaying lease boundaries in the /Display/GIS option, setting a 25% fill width in "Fill style" option will fill the border of all polygons to a ratio of 25%.

Mapping - Map Sheets

Bug Fixes

Map Elements can now be placed in current map zoom area 60400

A new button "Place in current zoom area" has been added to map elements edit dialog when the map sheet is in zoom in mode. This allows the map element to be re-position in the current zoom area of the map.

Loading a dbm without loading the map sheet now positions map elements correctly 60833

When loading a dbm file without loading the map sheet used to save the dbm, map elements sizes and locations are not calculated correctly in earlier versions. This is now fixed and map elements sizes and locations are now relative to the 4 corners of the map sheet.

Displaying title block highlight box is now erased if the title block is disabled 62320

Fixed bug where display title block highlight box is still drawn when the title block has been disabled (hidden).

Mapping - Wells

Enhancements

New star well symbols added

62770

62892

Two new well symbols, a hollow star and solid-filled star, have been added to the standard set of symbols.

Mapping - Wells

Bug Fixes

Filtering of wells now handles NULLs returned by Santos web service

Well fields filtering now handles NULLs properly when they are returned by Santos web service

<u>Surface Modeling - Exchange</u> <u>Enhancements</u>

Well Import Wizard: Updates to client configuration (Origin only)

Origins client configuration for importing of Wells through the Well Import Wizard has been updated to allow:

- Grouping of Wells by Permit when importing to Petrel
- Overriding Well Source when importing to dbMap database

Petrosys Release Notes

Surface Modeling - Exchange

Bug Fixes

Well Import Wizard now correctly imports thirdparty data source well symbol information when importing to PPDM3.8 dbMap database

A bug has been fixed which was causing incorrect well symbol information to be imported into a PPDM3.8 dbMap database when transferring well data from a thirdparty data source. The well symbol information was already correctly being imported into a WDF from these same thirdparty data sources.

Well Import Wizard now allows Well Primary Source to be specified 61752 (PPDM3.8 only)

The Well Import Wizard now allows the Well Primary Source to be optionally specified when importing Well headers in to a PPDM3.8 database.

Surface Modeling - General

Enhancements

Improvements to make it easier to clear cached data, including in workflows

Surface Modeling now allows clearing cached data. Cache can be cleared for either individual tasks or all tasks.

Surface Modeling - General

Bug Fixes

Surface Modeling task list is always visible

61833

The task list has been set to be always visible.

Zone button name shows correct zone name when the zone value is scripted

The Back Interpolate to WDF task zone button shows the correct name when the zone value is scripted.

Selecting feature class if no File Geodatabase is selected works correctly

Selecting feature class in Grid/Create Grid spatial datasource if no File Geodatabase was selected does not cause a crash.

Surface Modeling - Gridding Enhancements

Grid/Create Grid can now create fault polygon surface data on the fly when creating grids

When creating a grid with faults, the fault polygon surface can now be generated as part of the gridding task. To select this, simply turn on the "Grid inside fault" toggle on the fault tab of the Surface Modeling Grid/Create Grid option.

Surface Modeling - Gridding

Bug Fixes

Store runtime modified variogram parameters to task content after task run

In previous versions, when using griding method 'Kriging' or 'Kriging with External Drift' user run-time modified variogram parameters were not saved into to task content after the task was run. This has been fixed.

Gridding fault sticks generates correct fault polygons if fault sticks have different CRS than output grid

Gridding fault sticks using different CRS than the output grid will produce correct fault polygons with correct Z-values.

<u>Surface Modeling - Volumetrics</u> <u>Enhancements</u>

Volumetrics CSV reports for depth/volume, depth/area/thickness and other data 60317

Volumetrics reporting offers export of top and base depths, area and cumulative volume in .CSV format.

Detailed Release Notes Summary 17.8.1

Enhancements

3D Viewer - General

<u>60511</u>	Display Fault sticks in 3DViewer - introduced 'Auto' coloring
Appli	cation - Printing and Publication
61821 62307 61805	Picture View - Export to PDF option now has 'fit to page' option Export PDF and Raster now remember the last used folder/directory PowerPoint Export "Lock aspect ratio" option on by default for the picture properties
Conn	ections, Import and Export
<u>35195</u>	New option to import DEM, GeoTiff, ECW, Arc BinaryGrid, ERDAS IMAGINE and BIL image files to Petrosys grid files
Conn	ections, Import and Export - Excel
<u>47390</u>	Spatial Editor and Spatial Data Translator now support writing lines and polygons to Excel file
Conn	ections, Import and Export - Petrel
60893 61266	Added support to drag-and-drop data from Petrel to Petrosys Mapping and Surface Modeling Display of Petrel wells in Mapping and 3D Viewer now uses Petrel Well Symbol library and images
Conn	ections, Import and Export - SeisWare

<u>50916</u> Support for SeisWare 9.1 added

dbMap - Administration

Added support for Permits, Fields, Facilities & Basins in Admin/Reports/Edit

dbMap - Client

Well status can now be linked to plot symbol (PPDM3.8)

dbMap/Web - PLDB

62479 Auto removal of replicated wells when DOP/Prospect status is changed to a non-replicated state.

Mapping - General

16019 Color palette importer now allows more than 100 colors to be imported

62439 New pattern fill styles with vertical bands at 2:1 ratio

Shape tracing will jump to intersecting shapes

Mapping - GIS, Spatial and Culture

Text and Excel file format definition now defaults to having no Z-value column selected

Mapping - Wells

<u>52745</u> Added Permeability attribute fields to Reservoir Summary dialogs (Santos only)

Spatial Data Translator

Support date/time attribute for Excel file

Spatial Editor

Spatial Eartor		
	<u>47726</u>	New options to join or closed selected line segments
	<u>49298</u>	New option to create a polygon by tracing segments from other shapes
	<u>49299</u>	Hovering over a shape shows details relevant to the shape in the status bar
	<u>47448</u>	Vertices selected in the Coordinates table are also selected on the map (in vertex editing mode)
	<u>46263</u>	Status bar shows units for reported length and area
	<u>47724</u>	New option to export selected shapes
	<u>59984</u>	Buffer Shapes option populates attributes from source shapes onto the generated buffers
	<u>45791</u>	Coordinate table allows more control over how coordinates are displayed
	<u>60182</u>	Fault vertex related functionality can be run from a popup menu on the map
	<u>61235</u>	Added support for display and editing of vertex Z-values
	<u>61601</u>	Shape tracing will jump to intersecting shapes

Surface Modeling - Exchange

61493 Grid Exchange - Added a select existing button for the Attribute field

Grid Exchange - Added a tooltip for Bulk Apply when writing grids to OpenWorks

Surface Modeling - Gridding

61183 Enable wells query param field for scripting for Grid/Create Grid tasks
 51746 Mistie report in Well Tie now shows absolute value for Correction column

Surface Modeling - Workflows/Scripting

24688 Allow looping over over list of formations
37964 Allow looping over third-party seismic horizons

60996 Improved responsiveness of interactive prompt panel on OK click

3D seismic survey in output geometry is now scriptable for Grid/Processes/Arithmetic, grid resample, grid blend,

grid merge and distance grid

Scripting task parameter list now shows the task type

Detailed Release Notes Summary 17.8.1

Bug Fixes

Application - Printing and Publication

- 61382 CGM Reading Support added for patterned polygons as output by Geolog
- 61555 Map Elements are drawn correctly on exported output file when "Map contents only" option is selected

Application - User Interface

- Windows Can now select any file in the file selector regardless of whether it is the same name as the folder
- 61808 Fixed switching of temperature field values between metric and imperial units
- 62117 Well Header Permit lookup now displays '&' characters correctly

Connections, Import and Export

61783 Display 2D seismic IESX now shows all available data types

Connections, Import and Export - DUG Insight

60887 Invalid DUG Insight grids are no longer available for selection

Connections, Import and Export - Esri

Display Esri LYR now let user select a database connection if no matching connection is found in connections.xml

Connections, Import and Export - Paradigm-Epos

- 60742 Paradigm EPOS 3D seismic horizon data is now read correctly for sub-grids
- 60756 Paradigm-EPOS Better handling for custom projected CRS using standard projections
- 60250 Paradigm grid exchange to Petrel Petrosys missing values are not treated as valid grid values any more

Connections, Import and Export - Petrel

- Petrel data within standard folders nested in Seismic Interpretation folders is now accessible
- Petrel Importing a Model Grid is now working properly when data cache is enabled

Coordinate Reference Systems

61834 Lambert Conformal Conic with two std parallels set to the same value applies scale factor

Mapping - General

- 59260 Fault polygon symbols displayed correctly
- 61475 Imported Faults symbols direction matches direct display from Petrel
- 60671 Selecting faults correctly draws the highlighted annotation

Mapping - GIS, Spatial and Culture

- 61642 Petrosys .ply polygon display Polygon summary option now handles long filenames
- 62008 Bubble Maps Pattern fill style selection unnecessary error dialog removed
- 62056 Display GIS Thematic Mapping Exact match and range options color selectors have correct default
- ZGF display only adds used colors to the Petrosys palette

Mapping - Grids, Surfaces and Sampled Data Files

54431 Display/Grid user interface no longer resizes as datasource is changed

Mapping - Wells

Wells cache now honours User-defined or Using-form selection after all wells have been displayed

Spatial Data Translator

Spatial data translator writes attributes with spaces correctly to dbMap culture

Spatial Editor

- New shapes created with the cut tool are more obviously visible
- 49302 Fault flags are automatically set and maintained through editing operations
- 51791 Exit and close confirmation dialog allows Save As for modified layers
- 59300 Faults opened after previously opening contour data are loaded correctly
- 61126 Editing coordinates in the Coordinate Table in vertex mode updates the shape on the map immediately

62063 Point annotation is drawn correctly when zooming

Surface Modeling - Exchange

- 59769 Directional surveys grid north azimuth type is now correctly mapped when exchanging wells from DUG Insight and Petrel to dbMap
- 59770 Grid Exchange Updated field labels when OpenWorks is an output to match terminology in the OpenWorks application

Surface Modeling - General

- 59666 Grid/DumpFaultFile now populates Z-values of FTRAC faults with correct values for the up and down Z-values
- 57873 Grid Statistics now works correctly for rotated grids
- 61330 Surface Modeling no longer hangs when running task Compute Velocities From Stacking Velocities
- Won't get a replaced Petrel connection warning any more for every task executed in a workflow
- Faults 'Use Z Values' is now enabled for Paradigm-EPOS on Well tie panel
- 53952 Grid contouring task now creates auto-generated contour file when grid name includes special characters
- 60398 Grid/Process Arithmetic no longer crashes when map sheet file and map sheet name are interactively scripted
- 60604 WDF attribute lookup value is kept when switching between Compute type and Number type

Surface Modeling - Gridding

- 54587 File/Import/XYZ Ascii to grid file now handles scientific format correctly
- 60101 Fault polygon geometry was sometimes read incorrectly
- 52180 Surface modeling no longer crashes when running Kriging and cross validation

Surface Modeling - Workflows/Scripting

- 62459 Improved file performance when using WDF files in workflows
- 33505 Scripting for 3D Seismic Surveys in the output geometry tab now works

Velocities/Depth Converter

Data points are now re-populated after WDF is changed

Wells (WDF) Editor

- 55045 Wells (WDF) Improved sorting in lists with values using scientific notation
- 61002 Fixed crash on exit when closing via double clicking on window X button
- 60618 Crash on back interpolate from grid fixed

Petrosys Release 17.8.1

Detailed Release Notes

3D Viewer - General

Enhancements

Display Fault sticks in 3DViewer - introduced 'Auto' coloring 60511

The display of fault sticks now offers an auto coloring option to better visualize different fault stick surfaces without the need to create separate layers for each.

<u>Application - Printing and Publication Enhancements</u>

Picture View - Export to PDF option now has 'fit to page' option 61821

The /File/Export/PDF option in the /Apps/Picture View application now has the 'Fit to page' checkbox visible. This allows control over how the picture/CGM file is sized in the final PDF document.

Export PDF and Raster now remember the last used folder/directory

62307

The Export to PDF and Raster options will now remember the previously used folder or directory.

PowerPoint Export "Lock aspect ratio" option on by default for the picture properties 61805

The PowerPoint export option now sets the picture's "Lock aspect ratio" by default in the "Size and Position" properties.

This means the picture will maintain its original aspect ratio when resized using the corner drag handles, without the need to hold down the shift key.

Additionally, a bug was fixed where the picture was placed twice in the slide when an existing picture was the current selection.

Application - Printing and Publication

Bug Fixes

CGM Reading - Support added for patterned polygons as output by Geolog

CGMs output by Geolog and now drawn with the correct pattern fill.

Map Elements are drawn correctly on exported output file when "Map contents only" option is selected

A bug in the File/Export/Raster Image where map elements were not drawn at the correct position on the output raster file when the "Map contents only" option is selected has been fixed.

Application - User Interface

Bug Fixes

Windows - Can now select any file in the file selector regardless of whether it is the same name as the folder 57245

An issue where it was not possible to select certain files in the Windows file selector has been resolved. The issue showed itself when the filename being selected was the same as the name of folder it was within, and Windows was configured to not show file extensions. This was most commonly seen when selecting IHS Kingdom tks files for connection.

Fixed switching of temperature field values between metric and imperial units 61808

A bug has been fixed that stopped the conversion of temperature values between Celsius and Fahrenheit when using the Metric/Imperial toggle button.

Well Header - Permit lookup now displays '&' characters correctly 62117

Buttons on panels now display values that contain the ampersand "&" character correctly. Previously if the lookup value had an '&' it would not display and the next character would be shown with an underscore. Specifically, this was showing up in the permit lookup field in the Well Header panel for some databases.

Connections, Import and Export Enhancements

New option to import DEM, GeoTiff, ECW, Arc BinaryGrid, ERDAS IMAGINE and BIL image files to Petrosys grid files 35195

New options have been added to the Import menu to enable importing of DEM, GeoTiff, Arc BinaryGrid, ERDAS IMAGINE, ECW and BIL image files to Petrosys grid files.

These options are "Import/DEM..." and "Import/Raster (TIFF, ECW, BIL, ADF, IMG)" accessible from the main Launcher window and in the Surface Modeling application.

Note that not all raster image files are suitable for importing to Petrosys grid files. The images need to have georeferencing information and the data must be defined as the raw Z value that represents the actual data, not as RGB values. RGB color information is not able to be translated back into the original data values.

Connections, Import and Export

Bug Fixes

Display 2D seismic IESX now shows all available data types 61783

Mapping/Display/2D Seismic from IESX now shows all available horizon data types. Previously the dialog would only show Depth and/or Time data types, even though others were available.

Connections, Import and Export - DUG Insight Bug Fixes

Invalid DUG Insight grids are no longer available for selection 60887

Previously, all DUG Insight grids were shown in the Petrosys grid selectors, even if they didn't have data attached. Now, invalid DUG grids are not displayed in the grid selectors.

Bug Fixes

Display Esri LYR now let user select a database connection if no matching connection is found in connections.xml

Petrosys Mapping Display/Esri LYR files now prompts user to select a database connection if one cannot be matched in the connections.xml.

Connections, Import and Export - Excel Enhancements

Spatial Editor and Spatial Data Translator now support writing lines and polygons to Excel file 47390

Spatial Data Translator and Spatial Editor can now write polygon and line shapes to Excel file. The output Excel file can be automatically read and displayed as polygons and lines in Display/GIS.

Connections, Import and Export - Paradigm-EposBug Fixes

Paradigm EPOS 3D seismic horizon data is now read correctly for sub-grids

In previous versions there was bug where 3D horizon data from Paradigm may not be read correctly if the horizon data is in a sub grid area. This is now fixed.

Paradigm-EPOS - Better handling for custom projected CRS using standard projections 60756

If you have a custom projected CRS defined in Paradigm-EPOS, which makes use of certain standard projections (e.g. UTM), Petrosys now correctly maps this to the correct CRS if it matches a standard EPSG one, or creates a custom CRS on the fly if required.

Previously, for example, UTM projections could be incorrectly matched to the BLM equivalent. This was due to Petrosys reading the EPSG aliases for these projections from Paradigm-EPOS in order to match the CRS, however in these cases, two EPSG aliases existed, and it was picking up the BLM code instead.

This was not a problem for standard projected CRSs defined in Paradigm-EPOS.

Paradigm grid exchange to Petrel - Petrosys missing values are not treated as valid grid values any more

In previous versions, there is a bug that 'missing' grid values may be treated as valid grid values when doing grid exchange from Paradigm to Petrel.

<u>Connections, Import and Export - Petrel Enhancements</u>

Added support to drag-and-drop data from Petrel to Petrosys Mapping and Surface Modeling 60893

Petrel users can now drag supported data from Petrel directly into Petrosys. The following areas are supported for Petrel dragand-drop.

You can drag the following data types from the Petrel input tree directly to the Petrosys mapping canvas:

- Wells
- 2D seismic lines
- 3D seismic surveys
- Grids

- > Faults
- GIS points and polygons
- Formations
- Seismic interpretation
- Windows (maps all supported data displayed in that Window)

Key areas of the Grid/Create Grid, Well Tie, Phantom process have been Petrel drag-and-drop enabled:

- Datasource input
- Grid AOI (3D Survey)
- > Faults

Also, the Velocities/Well Checkshot Depth Conversion and Velocities/Well Time Depth Trend Conversion dialogs are drag-and-drop enabled for Petrel wells.

3D Viewer and Import/Export/Exchange are not yet supported.

Display of Petrel wells in Mapping and 3D Viewer now uses Petrel Well Symbol library and images

When displaying wells from Petrel, if the user chooses to display Well Symbols using the 'Current' value, Petrosys will now read the native Petrel Well Symbol library to determine the Well Symbol image and display this in Mapping and 3D Viewer. The user can still use the Petrosys Well Symbol library by using the 'Fixed' value option.

Connections, Import and Export - Petrel

Petrel data within standard folders nested in Seismic Interpretation folders is now accessible 58824

Previously, any data placed within a standard Petrel folder that was nested within a Seismic Interpretation folder was not visible to Petrosys. This limitation has been rectified, allowing this data to be displayed, gridded or exchanged.

Petrel - Importing a Model Grid is now working properly when data cache is enabled 58093

In previous versions there is a bug where Petrosys may hang when importing Model Grids from Petrel if the data cache is enabled.

Connections, Import and Export - SeisWareEnhancements

Support for SeisWare 9.1 added

50916

Bug Fixes

Petrosys now fully supports connectivity for SeisWare 9.1

Prior to this it was possible to connect to a SeisWare 9.1 project and read some seismic and fault data, but reading well data and horizons did not work.

Petrosys continues to maintain support for connections to SeisWare 9.0 and SeisWare 8.x.

Coordinate Reference Systems

Bug Fixes

Lambert Conformal Conic with two std parallels set to the same value applies scale factor 61834

In previous versions, a Lambert Conformal Conic with two identical standard parallel parameters incorrectly assumed a scale factor of 1.0.

Enhancements

Added support for Permits, Fields, Facilities & Basins in Admin/Reports/Edit 60386

It is now possible to edit Permits, Fields, Facilities & Basins reports and data selection queries using Admin/Reports/Edit... This is only available to clients using those modules in dbMap/Web.

dbMap - Client

Enhancements

Well status can now be linked to plot symbol (PPDM3.8) 61847

Petrosys PPDM3.8 dbMap clients now have the ability to directly link well symbols with the current status of the well.

Using the Mapping/Admin/Reference Tables/PPDM/General Reference/R_WELL_STATUS dialog, the well symbols can optionally be assigned to well status values.

Then when on the Mapping/Lists/Wells/dbMap/Edit/Well header dialog, when you select a current status that has a symbol assigned it will populate the correct symbols on the well header.

dbMap/Web - PLDB

Enhancements

Auto removal of replicated wells when DOP/Prospect status is changed to a non-replicated state. 62479

The PLDB Drilling Opportunity to Well Replication functionality has been enhanced to handle Opportunities that no longer quality for well replication, such as a change of status or designation. In this case, the 'replicated well' is removed from the wells database.

Mapping - General

Enhancements

Color palette importer now allows more than 100 colors to be imported

16019

The palette import option (File/Preferences/Palette/Import) now allows an unlimited amount of colors to be imported. Previously there was a 100 color limit

New pattern fill styles with vertical bands at 2:1 ratio 62439

Two new pattern fill styles have been added. These patterns are vertical stripes with a 2:1 ratio.

Mapping - General

Bug Fixes

Fault polygon symbols displayed correctly

59260

In some cases, fault polygon symbols were incorrectly drawn where either symbols were drawn for every fault polygon point or no symbols were drawn at all.

Imported Faults symbols direction matches direct display from Petrel

6147

Imported faults and the same directly displayed faults will now have matching fault symbols.

Selecting faults correctly draws the highlighted annotation 60671

In previous versions for the display of faults, when a fault is selected its annotation may be drawn with wrong the font size.

Mapping - GIS, Spatial and Culture Enhancements

Text and Excel file format definition now defaults to having no Z-value column selected 48587

When reading a text or Excel file for spatial data, Petrosys will now not select by default the first column with numeric data as the Z-value column. In previous versions, the first numeric column which is not the XY column was automatically interpreted as the Z-value column.

Mapping - GIS, Spatial and Culture

Bua Fixes

Petrosys .ply polygon display - Polygon summary option now handles long filenames 61642

The "Polygon Summary" option which reports on the area of the currently display Petrosys .ply polygon file will now handle filenames that up to the maximum system length of 256 characters. Previously the application could crash if the filename length was over 120 characters.

Bubble Maps - Pattern fill style selection unnecessary error dialog removed 62008

When using patterned fill styles in the Bubble Map option, the spurious error "No pattern library available" has been removed.

Additionally the pattern sizes are now applied correctly if using multiple patterns per bubble with different sizes.

Display GIS - Thematic Mapping - Exact match and range options color selectors have correct default 62056

In the thematic mapping option for the GIS display in Mapping, when using the 'Series (Exact match)' and 'Series (Range - color)' option the popup color selectors now have the correct default color.

ZGF display only adds used colors to the Petrosys palette 23497

The display of Landmark ZGF files in the /Display/GIS option will now only add in colors that are used in the ZGF to the Petrosys palette, rather than all colours defined in the ZGF color table.

Mapping - Grids, Surfaces and Sampled Data FilesBug Fixes

Display/Grid user interface no longer resizes as datasource is changed

In previous versions on Mapping display grid colorfill panel the layout on the top changes dramatically when changing data source type. This is now fixed.

<u>Mapping - Wells</u> <u>Enhancements</u>

Added Permeability attribute fields to Reservoir Summary dialogs (Santos only) 52745

New Permeability fields have been added to the Reservoir Summary view, edit and history dialogs.

Mapping - Wells

Bug Fixes

Wells cache now honours User-defined or Using-form selection after all wells have been displayed 58533

Display/Wells now honour user-defined and using-form selection filtering. In previous version, Display/Wells might draw all wells if data caching is turned on

Spatial Data Translator

Enhancements

Support date/time attribute for Excel file

60629

Spatial Data Translator now supports reading Excel date/time data.

Spatial Data Translator

Bug Fixes

Spatial data translator writes attributes with spaces correctly to dbMap culture 60753

Spatial Data Translator can now write input attributes with spaces to dbMap Culture. In previous versions attributes with space would be ignored.

<u>Spatial Editor</u>

Enhancements

New options to join or closed selected line segments⁴⁷⁷²⁶

New options have been added (toolbar icons and right mouse button menu options) to make it easier to join line segments. The join operation will link all selected lines in the best way. The close operation does the same, but will close the resulting shape.

In addition, a new dialog (available under the Operations/Join Shapes by Proximity menu) allows more sophisticated tolerance based joining of shapes.

New option to create a polygon by tracing segments from other shapes

49298

A new option has been added (toolbar icon) which allows creation and optional export of a closed polygon by tracing outlines of visible shapes. In previous versions, this was possible but not obvious and required creation into a layer rather than directly into an external file.

Hovering over a shape shows details relevant to the shape in the status bar

In contexts where it makes sense, when the mouse cursor is placed a point, line or polygon, the status bar is updated to show any relevant details for that shape (for example, contour level).

Vertices selected in the Coordinates table are also selected on the map (in vertex editing mode) 47448

In vertex edit mode, selecting vertices on the map would select the corresponding rows in the table. This now also works when selecting rows in the Coordinate table - the corresponding vertices on the map are selected.

Status bar shows units for reported length and area 46263

The status bar is used to show the length and area for selected shapes (where this is relevant). These now include the applicable units.

New option to export selected shapes

47724

A new option (toolbar button and right-mouse-button menu option) has been added that allows export of the currently selected shapes to a file or layer within the editor. In previous versions, this required manually opening the file to export to in the editor and copying and pasting shapes.

Buffer Shapes option populates attributes from source shapes onto the generated buffers 59984

The Buffer Shapes option is used to create a larger or small version of a shape. Now when this is done, the attributes from the source shape are copied to the generated buffer - for example the name in a ply polygon file will be set correctly. If the option to merge overlapping buffers is selected, then this does not occur (as multiple input shapes contribute to a single buffer).

Coordinate table allows more control over how coordinates are displayed

In previous versions, the Coordinates table always showed vertex information in the native CRS of the data being shown. This table now allows more control over how coordinates are shown including the CRS to use, and the format (for example DMS versus decimal degrees). It should be noted that editing of coordinates is only allowed when coordinates are being shown in the native CRS of the data.

Fault vertex related functionality can be run from a popup menu on the map

When faults are selected, the Coordinates table has a right mouse button popup menu that allows various operations (for example interpolation, clear, set or add values or flags) to be run on selected rows in the table (vertices). An equivalent menu is now available through a right mouse button popup menu on the map when faults are being edited using the vertex edit tool.

Added support for display and editing of vertex Z-values 61235

Vertex editing mode allows display of vertex Z-values, and direct editing (by double-click). Fault layers support display and editing of whichever flags are Z-values are applicable to the fault type.

Shape tracing will jump to intersecting shapes 61601

The Spatial Editor supports creating a shape by tracing the outline of other shapes. If a shape is being traced, and a point is added on another shape that intersects the current shape, tracing will automatically trace the outlines of both shapes to continue uninterrupted. In previous versions, a straight line connection would be made, which required an explicit point to be added at the intersection of the shapes.

Spatial Editor

Bug Fixes

New shapes created with the cut tool are more obviously visible

In previous versions, when the cut tool was applied, there was no visual change to the shapes, meaning that it was not clear if the cut had worked. This has been changed to draw vertices at the ends of open lines, which give a visual indication when shapes are cut.

Fault flags are automatically set and maintained through editing operations 49302

In previous versions, polyline fault flags were not automatically assigned for new faults and flags that were assigned would usually be blanked by editing operations such as smoothing or bending. This would result in fault symbols not being drawn for the sections of faults that were edited.

Exit and close confirmation dialog allows Save As for modified layers

51791

When a modified layer is closed in the Spatial Editor (either by closing the particular layer or exiting the editor or Mapping) a confirmation dialog is displayed. In previous versions, this allow changes to be saved or discarded. This dialog now allows Save As to allow modified layers to be saved under a different name.

Faults opened after previously opening contour data are loaded correctly

59300

In previous versions, loading fault data after loading a different type of data (such as contours) would result in nothing being loaded.

Editing coordinates in the Coordinate Table in vertex mode updates the shape on the map immediately 61126

In previous versions there was a bug which required another unrelated edit to be made to the shape on the map, before the changes would be visible.

Point annotation is drawn correctly when zooming 62063

In previous versions, zooming could result in point annotation being drawn at the wrong size and wrong offset. This was more likely to happen when zooming using icons rather than mouse wheel.

Surface Modeling - Exchange Enhancements

Grid Exchange - Added a select existing button for the Attribute field

61493

When using OpenWorks as an output data source in Grid Exchange the Attribute field now has a button to allow the user to select an existing attribute from a list that is read from the OpenWorks connection.

Grid Exchange - Added a tooltip for Bulk Apply when writing grids to OpenWorks 61127

Added tooltip to 'Bulk Apply' button available when writing grids to an OpenWorks data source.

Surface Modeling - Exchange

Bug Fixes

Directional surveys grid north azimuth type is now correctly mapped when exchanging wells from DUG Insight and Petrel to dbMap 59769

When well directional surveys are exchanged from DUG Insight and Petrel to dbMap using the Wells Import Wizard, the Grid North azimuth type is now correctly mapped in dbMap. This change does not affect the azimuth value which was correct previously.

Grid Exchange - Updated field labels when OpenWorks is an output to match terminology in the OpenWorks application 59770

The field labels shown in the Grid Exchange user interface when using OpenWorks as an output data source have been updated to use the same terminology as a user would see in the OpenWorks application. This has been done to alleviate some confusion as to what each field is used for when writing the grid to OpenWorks and then being able to find it in the OpenWorks application.

Surface Modeling - General

Bug Fixes

Grid/DumpFaultFile now populates Z-values of FTRAC faults with correct values for the up and down Z-values 59666

When back-interpolating grids to faults using the Surface Modeling option: "Grid/Dump fault file...", fault representations that are lines rather than polygons now have Z-values read from the grid on both sides of the fault. The down thrown Z and up thrown Z-value are now read correctly from the grid. Prior to this fix, both up and down Z-values were incorrectly populated with the same value. For closed fault polygon, the back interpolated Z-values are now consistently read from locations just outside the fault polygon.

Grid Statistics now works correctly for rotated grids⁵⁷⁸⁷³

Statistics reporting now generates all information for rotated grids. Previously the statistics for a rotated grid not have included all statistics.

Surface Modeling no longer hangs when running task Compute Velocities From Stacking Velocities 61330

There is a bug in previous versions where 'Compute velocities from stacking velocities' option could cause Petrosys to hang if the checkbox 'Add velocity at time 0 if not present' is ticked on. This is now fixed.

Won't get a replaced Petrel connection warning any more for every task executed in a workflow 47909

In previous versions when running a Surface Modeling workflow against a Petrel project which is not the original project where the task was created it will prompt Petrel connection replacement warnings when every individual task is run.

Now no Petrel connection replacement warning is displayed. Instead the connection replacement information is output to diagnostics if diagnostics is enabled.

Faults 'Use Z Values' is now enabled for Paradigm-EPOS on Well tie panel

5346

In previous versions there is a bug on well tie panel that 'Use Z values' on Faults tab is disabled for Paradigm data source. This is now fixed.

Grid contouring task now creates auto-generated contour file when grid name includes special characters 53952

Grid contouring task creates auto-generated contour file for grids that contain special characters in their names.

Grid/Process Arithmetic no longer crashes when map sheet file and map sheet name are interactively scripted 60398

In previous versions there was bug where Petrosys may crash when running Grid Arithmetic task with map sheet file and map sheet name interactively scripted. This is now fixed.

WDF attribute lookup value is kept when switching between Compute type and Number type

The WDF attribute lookup value is now remembered when switching between different types. Previously, the lookup would be cleared when changing types.

Enable wells query param field for scripting for Grid/Create Grid tasks $_{\scriptscriptstyle 61183}$

Wells query parameters are enabled for scripting.

Mistie report in Well Tie now shows absolute value for Correction column

Well tie mistie report shows the correction values as absolute values and the column header has been renamed to Abs Correction. Previously the correction was shown as a signed value, meaning large negative values could be overlooked.

Surface Modeling - Gridding

Bug Fixes

File/Import/XYZ Ascii to grid file now handles scientific format correctly

54587

File/Import/XYZ ASCII will scan data correctly if numbers are in scientific format.

Fault polygon geometry was sometimes read incorrectly 60101

Faults with points very close to each other were sometimes being removed incorrectly. This potentially led to incorrect fault geometries where the fault polygon was not a simple closed shape any more, affecting grid creation when using these faults. This has been fixed.

Surface modeling no longer crashes when running Kriging and cross validation 52180

In previous versions there is a bug that Petrosys may crash when clicking OK or Cancel button on Kriging variogram panel. This has now been fixed.

<u>Surface Modeling - Workflows/Scripting Enhancements</u>

Allow looping over over list of formations

24688

Formation is added as a new scripting looping data type.

Allow looping over third-party seismic horizons 37964

Seismic horizon is added as a new scripting looping data type.

Improved responsiveness of interactive prompt panel on OK click 609

The workflow starts faster after clicking OK on the interactive prompt panel.

3D seismic survey in output geometry is now scriptable for Grid/Processes/Arithmetic, grid resample, grid blend, grid merge and distance grid

3D seismic survey in output geometry is now scriptable for Grid/Processes/Arithmetic, grid resample, grid blend, grid merge and distance grid tasks.

Scripting task parameter list now shows the task type 58972

The list allowing the selection of scripting fields now shows task type to make selection of the right field easier.

Surface Modeling - Workflows/Scripting

Bug Fixes

Improved file performance when using WDF files in workflows 62459

A sub-optimal file access pattern has been addressed in Surface Modeling workflows. This occurred when WDF files were part of workflow tasks that had a lot of steps or loops.

Scripting for 3D Seismic Surveys in the output geometry tab now works

Scripting for 3D Seismic Surveys in the output geometry tab now works.

Velocities/Depth Converter

Bug Fixes

Data points are now re-populated after WDF is changed 60713

In previous versions on "Velocities/Well Time Depth Trend Conversion..." panel changing WDF did not update data points. This is now fixed.

Wells (WDF) Editor

Bug Fixes

Wells (WDF) - Improved sorting in lists with values using scientific notation 55045

In the Wells (WDF) application, lists that have scientific values are now sorted correctly.

Fixed crash on exit when closing via double clicking on window X button

61002

In the Wells (WDF) application, a crash that could occur when doubling clicking rapidly on the window close X button has been fixed.

Crash on back interpolate from grid fixed

60618

The Wells (WDF) application does not crash when back interpolating from grid.

Detailed Release Notes Summary 17.8

Enhancements

57193

58887

<u>57172</u>

Configuration - Licensing 57375 Extra warning about expiring licenses at two weeks before expiry 57050 Petrosys 17.8 requires new license file Connections, Import and Export 53764 Import ASCII Fixed Format File to SDF - Import of Easting/Northing values now works after running the Import/SEGP1 to SDF option 53751 Dispatch connections are now able to be upgraded to newer versions 60359 Well import wizard - Support added for matching wells by alias when loading into dbMap PPDM3.8 Connections, Import and Export - OpenWorks 60193 Support added for reading Fault sticks from SeisWorks 2D interpretation projects Connections, Import and Export - Paradigm-Epos 54489 Discontinued support for Paradigm 2011, 2011.1 & 2011.2 with EPOS 4.1 Data Management Connections, Import and Export - Petrel 60080 Support for Petrel 2012 ceased 53464 Supported Petrel 2016 dbMap - Administration 58602 Added Formation Name to the list of columns on the formation codes reference table screen - Origin only dbMap - Client <u>52722</u> dbMap Bin grid 'Define corner points' screen now calculates on the fly details from the current survey Mapping - General 41733 Map cartographic elements are displayed consistently when displayed on different map sheets <u>49541</u> Added support for contour increment being calculated on the fly based on scale / screen resolution 55277 Map Elements allow placement in the map sheet title bar Mapping - Map Sheets Mapping includes new options to resize the current map sheet Mapping - Wells 59383 Added a link to dbMap/Web Records Management page from desktop mapping wells RMB menu Spatial Data Translator <u>58718</u> Spatial Data Translator allows data without a spatial component to be loaded to dbMap culture Spatial Editor 36730 Spatial Editor allows editing of Petrosys grid files <u>58259</u> Faults displayed in the Spatial Editor have fault symbols enabled by default Surface Modeling - Contouring 58285 Added scripting function that will return if particular task is enabled/disabled Surface Modeling - General 51150 Added scripting function that returns date in a given format 59068 Ability to script ColorBar axis label in the template DBM 57169 Added ability to enable/disable scripting for individual parameters in the scripting panel 57195 Added ability to script color gradient (fixed range) min and max fields 57194 Added ability to script displaylist group names within the template DBM

Added indication of scripted parameters in task panels, allowing to enable/disable scripting

Added ability to script title block fields within template DBM

Added ability to script WDF file name in the Grid/Back Interpolate/WDF task

7177	Added scripting function returning user name(ID)
9134	Added scripting function that translates searched values to replaced values
9319	Added scripting function to return WDF units
8287	Added scripting support for enabling/disabling template DBM groups
8658	Added task to create well attribute for given WDF
7199	Added Time Depth Trend conversion task
0229	Exposed contour and grid increments to be scriptable fields in Tools/DrawMap

Surface Modeling - Gridding

57188 Added cross plot data analysis to KED

Surface Modeling - Volumetrics

44121 Volumetrics report exports depth and area pairs to separate CSV files based on the report file name and the selected polygon names

Detailed Release Notes Summary 17.8

Bug Fixes

Application - General

- 56572 Automated Crash Reporting Windows Added support for CrashRpt
- 52032 Well Import Wizard process launched from WDF editor is now in the Launcher session

Application - User Interface

54429 Grid browser default size is dynamically adjusted to accommodate its content as fully as possible

Connections, Import and Export

- 60450 WDF import Tobin import improvements
- Seismic Import: Output SDF selection is not lost any more when importing a new horizon

Connections, Import and Export - IHS

52185 Kingdom Grids - data type being read correctly now

Connections, Import and Export - OpenWorks

59784 Added optional environment variable to disable OpenWorks grid list caching

Connections, Import and Export - Paradigm-Epos

59008 Paradigm fault sticks with data types containing space in between can now be read successfully

dbMap - Administration

- 59128 Fixed incorrect filename listed in error dialog when unable to write sqltype.plf or rpttype.plf
- 51947 MAPPING List/Well does not crash on dynamic mapsheet (with clip filter) any more

dbMap - Client

- dbMap 3D bin grid dialog label states the angle is relative to true north
- 60184 Improved accuracy when creating 3D seismic bin grids in dbMap
- 59576 Primary database now available on first selection for Petrosys-dbMap well data selection

Mapping - General

- 54746 Colorbar now displays correctly when changing to a map sheet with a different scale
- 53796 Map elements can now be moved only within the visible mapping canvas

Mapping - GIS, Spatial and Culture

- 60860 Mapping report export to Excel now correctly writes numbers as numeric data in Excel
- 28700 Drawing Tools Lines Arrow heads drawing improved when using thick line styles

Mapping - Grids, Surfaces and Sampled Data Files

56821 Contour label drawing checking and progress bar improved

Mapping - Wells

58552 Well monthly production graphing now allows to filter years greater than 2000

Surface Modeling - Exchange

26839 Import of XYZ points to grid option re-written with more powerful scanning engine

Surface Modeling - General

- Tools DrawMap map sheet list is now updated when mapsheet file changed during interactive prompt
- 52447 Scripting function getFilePath returns correct path delimiter on Windows and Linux
- 59854 Added tooltips for scripted parameters in task panels
- 57437 Grid intersections are now calculated when both well track start and end points are outside the grid extent
- 59972 Grid/Statistics now returns correct values when run without opening the task
- 60064 Long scripting prompts are displayed in full length
- 60734 Surface Modeling no longer crashes after File/New or File/Quit is selected

Surface Modeling - Gridding

Petrosys Release 17.8

Detailed Release Notes

Application - General

Bug Fixes

Automated Crash Reporting - Windows - Added support for CrashRpt 56572

On Windows crash information is now able to be automatically sent to Petrosys for detailed analysis and logging.

When a crash is detected a dialog will popup that will ask if you would like to send the details of the crash directly to Petrosys. The dialog will then ask for your email and any other information relevant to the crash you might want to provide, these details are optional. The crash information contains process information, a stack dump, a copy of the site configuration file, diagnostic log files as well as a screenshot of just the Petrosys application at the time of the crash.

Optionally, a video of the last 60 seconds of activity can be recorded and sent with the crash report. This is turned on using the /File/Preferences/Diagnostics dialog. The video only shows Petrosys application windows, and can be previewed before it is sent.

The crash report is only sent if you explicitly press OK.

The details of the crash report and exactly what is going to be sent to Petrosys are able to be viewed by clicking on the 'What does this report contain' link in the dialog.

The information is sent using http protocol to a server run by Petrosys where the crash information can be analysed and used to improve the software. If this server is not accessible due to internet access restrictions the set of files can be exported to a zip file and manually sent to Petrosys support using another means.

This reporting mechanism can also be used to capture the exact state of the application at any point, even if the application does not crash. This can be triggered using a button on the Help/About screen or using the hotkey shortcut Ctrl+Shift+R. This might be useful of the application is behaving badly but not crashing, the information sent can help diagnose the problem quicker.

Well Import Wizard process launched from WDF editor is now in the **Launcher session**

Previously when launching well import wizard from WDF editor the Surface Modeling process is not part of the session even the launcher is running. Now it is.

Application - User Interface

Bug Fixes

Grid browser default size is dynamically adjusted to accommodate its content as fully as possible

Grid browser width will be increased dynamically to display all columns if possible without a horizontal scrollbar

Configuration - Licensing Enhancements

Extra warning about expiring licenses at two weeks before expiry 57375

An extra warning for expiring licenses has been added to allow more time to renew the license.

Warnings are now issued at 14 days out, and every day from 5 days up until expiry,

Warnings are only issued once for that day per user.

Petrosys 17.8 requires new license file

57050

Petrosys 17.8 requires a new Flex license file to be installed. The 17.8 licenses are backwards compatible with earlier versions of Petrosys. Petrosys support will advise where the 17.8 license can be downloaded from.

Connections, Import and Export Enhancements

Import ASCII Fixed Format File to SDF - Import of Easting/Northing values now works after running the Import/SEGP1 to SDF option 53764

The 'Import/ASCII Fixed Format File to SDF' option now works correctly if you have previously run the 'Import/SEGP1 to SDF' option. Previously if you had the SEGP1 option directly before the easting/northing coordinates would not import correctly.

Dispatch connections are now able to be upgraded to newer versions 53751

The Mapping/File/Connection manager/Upgrade option has been extended to also support upgrading the database and version of dispatch server connections to OpenWorks, SeisWorks and GeoFrame.

Well import wizard - Support added for matching wells by alias when loading into dbMap PPDM3.8 60359

When using Well Import Wizard to load wells into the Petrosys-dbMap PPDM3.8 database model, it now has an option to match wells based on aliases stored in the WELL_ALIAS table.

Connections, Import and Export

Bug Fixes

WDF import - Tobin import improvements

60450

The Tobin well WCS file format importer in the WDF Editor has been improved:

- > The correct longitudes values are now used as the Tobin file had an implicit assumption of being in the western hemisphere.
- > The full 12 digit API number is now used for the UWI
- > The mapping of the well status codes to Petrosys well symbols has been expanded to use the full set of known Tobin well status codes.
- County codes are now mapped to county names
- > State codes are now mapped to the two digit state abbreviations
- > Bottom hole coordinates are now loaded. The bottom hole well symbol is set to be the same as the top hole symbol

Seismic Import: Output SDF selection is not lost any more when importing a new horizon 53538

In previous version there was a bug on seismic import to SDF panel that output SDF is blanked out if some new horizons are created during importing, it's now fixed.

Connections, Import and Export - IHS

Bug Fixes

Kingdom Grids - data type being read correctly now 52185

In previous version there was a bug that if table T_Survey is empty in IHS Kingdom project the grid data types will not be loaded, now it's fixed.

Connections, Import and Export - OpenWorksEnhancements

Support added for reading Fault sticks from SeisWorks 2D interpretation projects 60193

It is now possible to use fault sticks from SeisWorks 2D interpretation project connections for all options supported. e.g. Exchange/Fault sticks, Surface Modeling, 3D Viewer.

Previously you had to select a 3D seismic survey, which meant fault sticks were restricted to being read from SeisWorks 3D projects only.

Connections, Import and Export - OpenWorks Bug Fixes

Added optional environment variable to disable OpenWorks grid list caching 59784

The PS_DISABLE_OW_GRID_CACHE environment variable is now checked when determining whether or not to re-query OpenWorks for the list of grids. If the PS_DISABLE_OW_GRID_CACHE exists, the grid list cache will be cleared each time Petrosys queries for the list of grids. This can be useful when working with OpenWorks data and wanting to work with the same new data in Petrosys.

Note: There is no change in the default behavior. By default, the grid list is still cached.

Connections, Import and Export - Paradigm-EposEnhancements

Discontinued support for Paradigm 2011, 2011.1 & 2011.2 with EPOS 4.1 Data Management 54489

Support for importing and direct display of Paradigm 2011, 2011,1 and 2011.2 with Epos 4.1 Data Management by Petrosys has been discontinued.

Currently supported versions of Paradigm are Paradigm 2011.3, 14, 14.1, 15 (Enterprise Linux 5+, Windows 7+) and 15.5 (Enterprise Linux 6+, Windows 7+).

Connections, Import and Export - Paradigm-EposBug Fixes

Paradigm fault sticks with data types containing space in between can now be read successfully 59008

Paradigm fault sticks with data type names having space in it such as 'Time Migrated' can now be read.

<u>Connections, Import and Export - Petrel Enhancements</u>

Support for Petrel 2012 ceased

60080

Petrel 2012 is no longer supported. Petrosys continues to maintain support for Petrel 2013 through to Petrel 2016.

Supported Petrel 2016

53464

Petrosys connectivity to Schlumberger's Petrel now supports direct interaction with Petrel 2016.1.

Support for Petrel 2016.1 includes the ability to:

- > Import Model grid horizons and 3D seismic interpretation horizons to a Petrosys grid file
- > Import faults from Model grids to a Petrosys fault file
- Import 2D and 3D seismic navigation and horizon interpretation data to a Petrosys SDF
- > Directly display Model grid horizons, Input surface grids and 3D seismic interpretation horizons in Mapping

- > Directly contour Model grid horizon data and Input surface grids in Surface Modeling
- > Directly grid 2D and 3D seismic horizon interpretation data in Surface Modeling
- > Directly display, grid and import well data.
- > Directly display 2D seismic navigation and horizon interpretation in Mapping
- > Directly display 3D seismic bin grids in Mapping
- Directly display Structural Model fault surfaces in 3DViewer
- Directly display fault sticks in 3DViewer
- > Export Petrosys and other third party grids to Petrel

Petrosys continues to maintain support for connections to Petrel 2013.x., 2014.x, 2015.x

dbMap - Administration

Enhancements

Added Formation Name to the list of columns on the formation codes reference table screen - Origin only

Now display a Formation Name column in the admin panel for PPDM Formation Codes.

dbMap - Administration

Bug Fixes

Fixed incorrect filename listed in error dialog when unable to write sqltype.plf or rpttype.plf 59128

When using the query administration tools and the system is unable to write either the sqltype.plf or rpttype.plf file, the error dialog now shows the correct file name.

MAPPING List/Well does not crash on dynamic mapsheet (with clip filter) any more 51947

In previous version there was a bug that Mapping crashed when list wells from a connection it's now fixed.

dbMap - Client

Enhancements

dbMap Bin grid 'Define corner points' screen now calculates on the fly details from the current survey

Previously the dbMap Bin grid 'Define corner points' screen showed the values that were last entered by a user. Those numbers could have related to a different bin grid survey. The 'Define corner points' screen has been updated to now compute the corner points on the fly based on the current survey.

dbMap - Client

Bug Fixes

dbMap 3D bin grid dialog label states the angle is relative to true north

6016

On the dbMap bin grid header screen, the label for the rotation angle field has been updated to make clear the angle is relative to True north (as opposed to Grid north).

Improved accuracy when creating 3D seismic bin grids in dbMap 60184

When creating a 3D seismic bin grid in dbMap using the Define corner points option it now produces a more accurate result, as it takes the decimal places of the Easting/Northing values into consideration, and the storage of the origin latitude/longitude has been increased from 6 to 7 decimal places.

Previously, it was only using integer Easting/Northing values, which along with the reduced decimal places, meant that the resulting bin grid origin would not match exactly what you had entered in the Define corner points screen.

Primary database now available on first selection for Petrosys-dbMap well data selection 59576

The dbMap primary database is now always available when accessing wells data from a Petrosys-dbMap data source. Previously, if the primary database had not already been connected, the primary database was not listed as a current connection and needed to be added via the Add button.

Mapping - General

Enhancements

Map cartographic elements are displayed consistently when displayed on different map sheets

When the current map sheet changes (either through editing or selection of a different map sheet), map elements will retain their relative sizes and positions where possible. In cases where relative sizes cannot be maintained, new sizes will be determined to ensure the elements are placed sensibly.

The specific map elements that have been enhanced are as follows:

- Scale Bar
- Color Bar
- > Title Block
- North Arrow
- Location Map
- Legend

In previous versions, changes to map sheet were inconsistently handled and typically resulted in elements changing size, shifting position so that they were not visible, or both.

Added support for contour increment being calculated on the fly based on scale / screen resolution 49541

Contour increments are calculated on the fly based on grid/surface min/max scale values.

Map Elements allow placement in the map sheet title bar 55277

The cartographic map elements (namely scale bar, location map, title block, north arrow and color bar) now have an option to display relative to the map sheet title bar. Previously only the legend had support for this.

Mapping - General

Bug Fixes

Colorbar now displays correctly when changing to a map sheet with a different scale

In previous versions, the color bar could disappear when displayed on a map sheet with a different scale.

Map elements can now be moved only within the visible mapping canvas

53796

Map elements are now able to be positioned only within the bounds of the current map sheet.

Mapping - GIS, Spatial and Culture

Bug Fixes

Mapping report export to Excel now correctly writes numbers as numeric data in Excel 60860

A bug was introduced in 17.7sp3 where exporting to Excel from a list or a report was writing numbers formatted as string data. This is now fixed and numeric data in Petrosys is now correctly interpreted by Excel as numeric data.

Drawing Tools Lines - Arrow heads drawing improved when using thick line styles

The Mapping 'Display/Drawing Tools/Curve' option renders arrow heads with thick lines in a much improved manner. Previously the arrow head point could have had the line extend through it making the arrow head look blunted or just look very odd.

Mapping - Grids, Surfaces and Sampled Data FilesBug Fixes

Contour label drawing checking and progress bar improved 56821

Contour display includes some processing to determine the optimum position for the contour labels, which can take a little time depending on how many labels need to be positioned and drawn. This has been improved:

- invalid parameters now produce an error (such as a label size of 0)
- > the progress bar includes a hint that contour label and/or size may have an impact on processing time

Mapping - Map Sheets

Enhancements

Mapping includes new options to resize the current map sheet 58054

Mapping includes new options to resize the current map sheet:

- > increase by 10%
- increase by 100%
- resize to an interactively selected sub-region of the current map sheet

These options are available under the Mapping/Map Sheet/Resize menu.

Mapping - Wells

Enhancements

Added a link to dbMap/Web Records Management page from desktop mapping wells RMB menu 59383

For dbMap/Web clients, a link has now been added to the desktop mapping application's context-sensitive menu for wells which will open the dbMap/Web records management page for the given well.

Mapping - Wells

Bug Fixes

Well monthly production graphing now allows to filter years greater than 2000

When filtering production data in the monthly production chart using View/Preferences, the date filter now allows years greater than 2000.

Spatial Data Translator allows data without a spatial component to be loaded to dbMap culture 58718

In previous versions, the Spatial Data Translator only supported importing data that contained a spatial component (i.e. a valid point, line or polygon). This restriction has been removed when dbMap culture is selected as the output.

The Excel and Text file input sources, include a new checkbox ("This data source does not have coordinate columns") in the "Define Format" dialog to indicate that the source file does not have any spatial data.

Spatial Editor

Enhancements

Spatial Editor allows editing of Petrosys grid files 36730

The Spatial Editor has been enhanced to allow editing of Petrosys grid files. This includes editing of corresponding contours, faults and clipping polygons, which are linked together with the grid.

Two different methodologies of editing are supported:

- ➤ Direct manipulation of grid nodes including smoothing, adjusting grid values via edit circle or polygon and interpolation of missing values by regridding
- > Contour based editing contours are generated on the fly from the grid and can then be edited using exist means. The areas that have been modified are automatically tracked and the change portion of the grid can be updated via a localised regrid.

In both methods, faults and clipping polygons can be edited and applied to the grid when required

This new functionality supercedes the grid editor available in previous versions.

Faults displayed in the Spatial Editor have fault symbols enabled by default 58259

In previous versions, faults symbol display had to be enabled manually for each new fault layer displayed.

Surface Modeling - Contouring

Enhancements

Added scripting function that will return if particular task is enabled/disabled 58285

Added scripted function that returns whether a particular task is enabled/disabled.

Surface Modeling - Exchange

Bug Fixes

Import of XYZ points to grid option re-written with more powerful scanning engine

Scanning algorithm has been optimized to make it more robust, tolerant to data variations.

Also accuracy of estimates is increased, and also there is some mild increase of performance.

Surface Modeling - General

Enhancements

Added scripting function that returns date in a given format 51150

Added scripting function that returns date and time strings. The output format is configurable by the user.

Ability to script ColorBar axis label in the template DBM 59068

Tools DrawMap option allows scripting of axis for Color Bar map elements layers.

Added ability to enable/disable scripting for individual parameters in the scripting panel 57169

Added ability to enable/disable field scripting without the need to delete the script.

Added ability to script color gradient (fixed range) min and max fields

Tools DrawMap option allows scripting of color gradient (fixed range) min and max range for Grid/Colorfill layers.

Added ability to script displaylist group names within the template DBM 57194

Tools DrawMap option allows scripting of group names that appear in the display list.

Added ability to script title block fields within template DBM 57193

Tools DrawMap option allows scripting of title block mapping element layers.

Added ability to script WDF file name in the Grid/Back Interpolate/WDF task

Grid/Back Interpolate/WDF makes the WDF file name available for scripting.

Added indication of scripted parameters in task panels, allowing to enable/disable scripting 57172

Added scripting parameters indication on task panels with colored highlighting box. The scripting status (enabled/disabled) can be altered via CTRL+SHIFT plus mouse left click on the field. The highlighting line width can be set via Tools/Configuration under Surface Modeling.

Added scripting function returning user name(ID) 57177

Added scripting function returning user ID on the system.

Added scripting function that translates searched values to replaced values 59134

Added scripting function 'translate' that allows to substitute a single string into another single string based on a one-to-one substitution list.

Added scripting function to return WDF units 59319

Added scripting function that returns the well data file (WDF) units.

Added scripting support for enabling/disabling template DBM groups

Tools DrawMap option allows scripting of group names activities that appear in the display list. That is the group can be scripted to be ON or OFF.

Added task to create well attribute for given WDF 58658

Added new menu option for creating WDF attributes for a given WDF file. The option is under Tools/Create WDF Attributes.

Added Time Depth Trend conversion task

57199

Time Depth Trend Conversion method has been added. It is located under /Velocities/Well Time Depth Trend Conversion menu option. The method creates a trend based on the input data points from time grid and well data. The trend can be then used for time-depth conversion.

Exposed contour and grid increments to be scriptable fields in Tools/DrawMap 60229

Tools DrawMap option allows scripting of grid and contour increments for Grid/Colorfill layers.

Surface Modeling - General

Bug Fixes

Tools DrawMap - map sheet list is now updated when mapsheet file changed during interactive prompt 60001

The Tools/DrawMap task updates the list of map sheet names when the map sheet file is changed during interactive prompt screen.

Scripting function getFilePath returns correct path delimiter on Windows and Linux 52447

Scripting function getFilepath returns correct 'slash' in the file path string.

Added tooltips for scripted parameters in task panels 59854

The scripted task parameters generate tool tips with scripting information on task panels if the user hover over a scripted field for a prolonged time.

Grid intersections are now calculated when both well track start and end points are outside the grid extent 57437

When calculating well path or fault sticks intersections with grids, no intersection was calculated when both the beginning and end of the intersecting path segment was located outside the grid extents. A valid intersection is now returned.

Grid/Statistics now returns correct values when run without opening the task

Grid statistics task returns correct values when run without opening the task.

Long scripting prompts are displayed in full length 60064

Long prompt labels for interactively scripted fields are fully displayed across multiple lines.

Surface Modeling no longer crashes after File/New or File/Quit is selected

60734

Surface Modeling does not crash when running File/New or File/Quit menu options.

<u>Surface Modeling - Gridding</u>

<u>Enhancements</u>

Added cross plot data analysis to KED

57188

Kriging with external drift has been extended with a cross plot data analysis.

Bug Fixes

Grid/Create/[Grid|WellTie|Phantom] tasks have BOTH fault type option available on fault tab

Grid/Create Grid, WellTie, Phantom tasks have fault type BOTH available on fault tab when using faults for gridding.

<u>Surface Modeling - Volumetrics</u> <u>Enhancements</u>

Volumetrics report exports depth and area pairs to separate CSV files based on the report file name and the selected polygon names

44121

Volumetrics reporting offers export of depth and area pairs in .CSV format.