Ocean Software Development Framework for the New Petrel User Experience (UX)

Integrate third-party plug-ins into Petrel platform

BENEFITS AND FEATURES

- Simplified new ribbon menu style
- Improve user productivity by grouping tools and features into the ribbon with domain-specific perspective
- More productive navigation with contextual interface element
- Fast adoption for developer-to-development environment by implementing industry-standard extensible markup language (XML)
- User-friendly tool to configure user interface elements
- End-user-modifiable interface layout and design
- Seamless integration of third-party plug-in into the Petrel* E&P software platform
- Security-controlled access to configuration files
- Featuring a wizard tool to assist new developers in the use of the UX mode

The 2014 release of the Petrel E&P software platform has instigated the UX mode as the default user interface, giving the software platform a new look and feel. The introduction of a ribbon-style menu and tab system benefits the multi-sciences Petrel platform and enables the domain-specific grouping of tools and features.

The Ocean* software development framework plays an important role in enabling integration of third-party plug-ins into the Petrel platform in UX mode. The Ocean framework provides developers with the tools and capability to integrate their plug-ins into the Petrel platform in various ways with different interface elements and interaction to enable optimum productivity for the end user. Most importantly, the Ocean framework for the Petrel platform in UX mode allows seamless integration of all plug-ins with same level of control as any other native feature or module in the Petrel platform.

In addition to providing an application programming interface (API) as described above, the Ocean framework for the Petrel platform in UX mode also offers the configuration designer tool. This tool enables both the developer and end user to take part in designing, managing, and experimenting with the way in which they want to interact and integrate their Petrel platform plug-in.

As a third-party plug-in developer, the Ocean framework for the Petrel platform in UX mode enables you to build your required plug-in and immediately integrate it. Ultimately, from the end user's point of view, the plug-in ceases to be a plug-in, gels with the system, and becomes an integrated feature of the Petrel platform workflow.
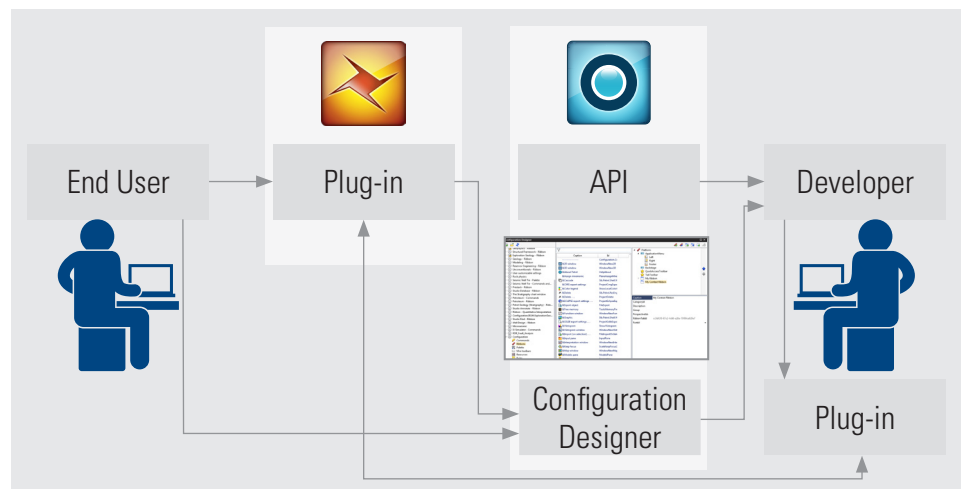
To integrate their plug-in into the Petrel platform, developers have the flexibility of using API with their integrated development environment (IDE) to program how they want the user to interact with the plug-in that they build or use the configuration designer to achieve the same result but faster. The end user employing the plug-in can use the configuration designer to explore more options on how the plug-in can be used in the Petrel platform. This iteration of design and feedback is great for maturing a plug-in and at the same time allows the end user to customize the Petrel platform interface to suit their workflow.

# Ocean Software Development Framework for the New Petrel UX

Configurable user interface (UI) elements

Ocean for Petrel UX enables all UI elements currently available in Petrel to be extended to benefit the third-party plug-in. This has been made available to offer seamless integration of plug-ins into the Petrel platform.

Plug-in producers have the flexibility to have a loose integration with the Petrel platform by introducing their own ribbon menu or to choose a tight integration with existing tools in the Petrel platform by extending the new item in existing command groups.

A UI element can also be configured based on contextual behavior. A typical implementation is to have a particular ribbon visible only when it is in use within that context. For example, a ribbon that pertains to the Petrel platform 3D capabilities is only visible when a user is working on a 3D window. This can be automated programmatically by adding in a rule during integration of a ribbon.

Another benefit of this component is that it enables the user to access any tool anywhere in the system. This is made possible with a customizable tool palette, which enables the user to put together a tool palette with a mix of existing Petrel platform tools with those made available by a user's plug-in.
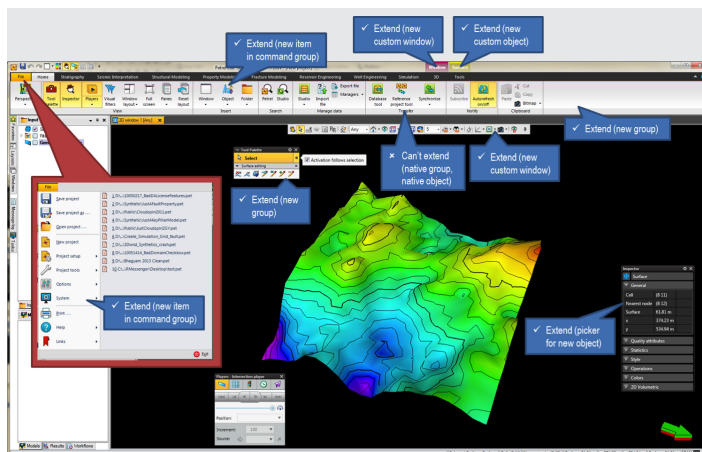

3D window from the Petrel platform featuring a list of all extensible user interface elements using the Ocean framework for the Petrel platform in UX mode.

Configuration designer

UI configuration in the Petrel platform is implemented using industry-standard extensible markup language (XML) to allow fast adoption to the development environment.

The configuration manager tool enables developers to create and manage configuration files through a graphical user interface (GUI). This tool can be used by both developer and end user involved in the development cycle of a plug-in.
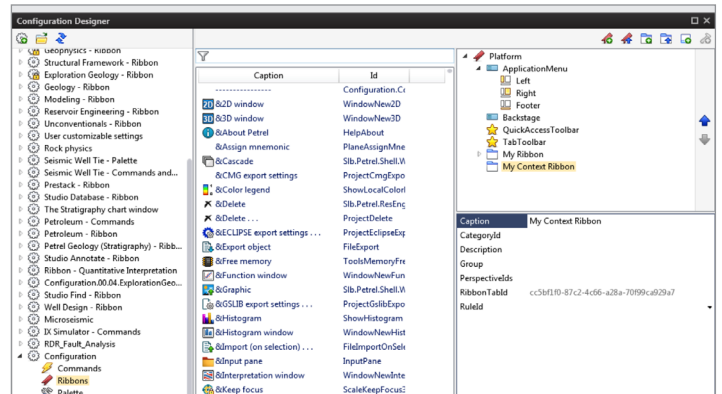
The configuration manager enables developers to create and manage configuration files through a graphical user interface (GUI).

Ideally, developers will use the configuration manager to hone how they want to present their tool to the end user; the end user will then use the configuration file to experiment with how they would like to use the tool. The end user can manipulate the configuration to suit their environment, and would feedback input to the iterative development process.

In a nutshell, the configuration designer not only helps the developer to work more efficiently but also enables the end user to explore and manipulate the configuration in their particular environment.

Application programing interface (API)

The Slb.Ocean.Petrel.PetrelSystem.CommandManager is one example of an API that is available to the developer to assist in delivering their plug-in implementation to the end user.

The Slb.Petrel.Commands.GroupCommandHandler API defines the logic for a GroupCommand. When added to the Petrel platform UI, this will be represented by a drop down menu. Plug-ins should inherit from this class and register an instance with ICommandManager to provide the logic behind a GroupCommand.

Slb.Ocean.Petrel.PetrelSystem.ConfigurationService is responsible for loading UI configuration files generated by the configuration designer into a plug-in to make it permanent.

Framework wizard for UX

To complete the spectrum of plug-in development, the Ocean framework wizard is capable of creating plug-in ribbons and commands automatically. This wizard will implement the necessary API and UX configuration in a complete solution. This capability is available to help the developer to kick start their development faster. It also speeds up prototyping for plug-ins. This wizard will also be useful in helping the developer to understand how to implement UX in the most effective manner.

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