**RapidPlan 2.0**
Integrated strategy for fast-track field development planning

**APPLICATIONS**
- Making confident, high-quality fast-track field development planning (FDP)
- Creating drilling strategies that account for anticollision and hazard avoidance
- Making performance predictions based on an optimized FDP in the presence of reservoir uncertainties and operational risk tolerance
- Enabling selection of new well locations when existing candidates cannot be drilled
- Easily accommodating last-minute changes from any discipline through rapid recalculation

**BENEFITS**
- Improves quality of results through evaluation of hundreds of possible FDP scenarios
- Automatically determines optimal well locations and completion intervals
- Enables timely procurement and scheduling through accelerated decision making
- Allows traceable decision making based on geology and large number of simulation trials
- Results in wells and completions easily used in subsequent analyses

**FEATURES**
- Performs automated multivariable optimization of well locations, trajectories, completion locations, and flow rates in the presence of existing wells and production history, geological parameters and reservoir engineering constraints, subsurface uncertainty, capex and opex costs, risk tolerance, and drilling sequence
- Integrates multiple disciplines and scenarios

Designing optimal field development plans can be complicated by reservoir structure uncertainty, petrophysics, the potential for well collision, and fluid flow interaction. This range of possibilities requires input from multiple disciplines often working individually. To streamline what can become a time-consuming field planning process, Schlumberger Production Management (SPM) and Data & Consulting Services (DCS) offer the RapidPlan™ system—the industry’s only FDP service that integrates multiple reservoir concepts and runs several scenarios in a matter of minutes.

**Automatic well placement planning**
For both greenfields and brownfields, the RapidPlan application service automatically generates an optimal well placement strategy that accounts for subsurface uncertainty and operational risk tolerance. It provides the strategy quickly by leveraging the uncertainty framework within an existing Petrel® reservoir model, along with existing wells and other operational constraints. The resultant multivariable-constrained FDP reflects the best choices for completion locations along with well tiepoint and borehole geometry. Proposed well trajectories are generated that satisfy dogleg severity and collision avoidance constraints in both the overburden and the reservoir.

Although computationally intense, this optimization is performed in only minutes using high-speed system components that support hundreds of forward reservoir simulations and well trajectory designs. Quick turnaround allows for last-minute changes from any discipline.

*Evaluation of FDP scenario in greenfield with three platforms of production-injection wells plus a standalone multilateral well.*
**RapidPlan 2.0**

- Incorporates proprietary automated well design technology, which supports anticollision and hazard avoidance in the reservoir and overburden, along with high-speed components that allow hundreds of forward reservoir simulations and well trajectory designs to be processed in minutes
- Integrates with Petrel seismic-to-simulation software
- Can be applied in greenfields or brownfields and in primary or secondary projects
- Offers a wide range of development strategies including geology driven, pattern driven, recompletion, and sidetracks
- Can be used for multiple well types including vertical, s-wells, j-wells, and horizontals
- Facilitates multiple optimization strategies, driven by net present value (NPV), return on investment (ROI), and/or profitability index (PI)
- Evaluates risk and uncertainty, and the efficiency of frontier plots
- Applies to projects with primary or waterflooding production

**Maximum production and NPV**

The oil or gas production of a project is calculated by the RapidPlan service with a high-speed semi-analytical reservoir dynamics simulator that solves pressure analytically and saturation explicitly. This number is then maximized, and capital is minimized to obtain optimal NPV over a specified time period.

**Expert workflow**

- Build Petrel reservoir model, incorporating existing wells and their production histories.
- Run RapidPlan system to automatically assimilate necessary data, parameters, constraints, and financial information.
- Run RapidPlan optimization to generate best FDP strategy on Petrel Input Tree and a Microsoft® Excel® spreadsheet.
- Visualize well placement, trajectory, and completions locations on Petrel canvas.
- Use Petrel support for multiple model realizations to optimize FDP in the presence of uncertainty and risk.
- Adjust strategy with a scheduling tool to determine optimal sequencing of the proposed wells.

*Brownfield FDP example, finding new deviated wells by using both new and existing platforms.*