WellArchitect®, developed in conjunction with Baker Hughes, a GE company, is an advanced well planning and survey management system for integrated planning and drilling of directional wellpaths with or without earth models. Devised to seamlessly accommodate the needs of sidetracking, multi-lateral wellpaths, and re-entry drilling, WellArchitect is used at both the office and wellsite, by all personnel levels in the industry. Trajectory calculations, target erosion by positional uncertainty, reporting, plotting, and 3D visualization are all included in this package.

- Combines powerful directional drilling software with advanced 3D visualization tools—a major step forward for the drilling and oil and gas industry
- Handles everything from planning and survey calculations through data management and collision-risk analysis for a single wellpaths and multi-site/multi-lateral wellpaths
- Visualize paths in context with drilling (e.g., offset wells, targets, ellipsoids of uncertainty) and optional geological data for optimal wellbore placement
- Interactive 3D visualization of collision scans while planning
- Safety-critical automated clearance calculations ahead-of-the-bit using industry-standard tool models and user-tailored anticollision rules
- Analyze drilling performance against the plan with 2D/3D interactive tools
- Automatic alerts while planning risks that could cause issues while drilling
- Proximity monitoring to faults and horizons while planning and drilling
- Target sizing based on positional uncertainty, special return-to-plan capabilities, trajectory planning in basic and advanced modes, as well as easy data transfer from the office to the wellsite (and back), are among the many features designed to improve the well planning and survey management experience

Wellpaths can be juxtaposed against earth models, reservoir models, and more

- Technically advanced tools for managing collision risk with intuitive displays that respond interactively to new data
- Sophisticated Graphic Editor facilitates plotting for wall maps and page-sized scale drawings
- Complete reporting package covering data management and transfer reports as well as wellpath and clearance calculation reporting

3D Collision Avoidance: Tubes displayed around each offset well show the minimum allowable separation distance (MASD) from the reference wellpath, and are colored by the pass (green)/fail (red; not shown) criteria of an ACR (anti-collision rule). Collision-avoidance symbols indicate the space available for steering away from nearby wells; each symbol can be queried as to its length (the amount of “available space”) and direction.
Interactive traveling cylinder diagrams showing plans and actuals: highlighted sections represent a user-selected MD range (left); in 3D with available space symbols (bottom left)

Quickly evaluate alternate proposals—and contingencies—in the context of the target and reservoir objectives

Planned wellpath with ellipsoids of uncertainty, geologic (blue) and “eroded” driller’s (yellow) targets, and surrounding actual wellpaths colored by depth

Portion of a clearance report showing which paths fail the specified anti-collision rule (ACR)