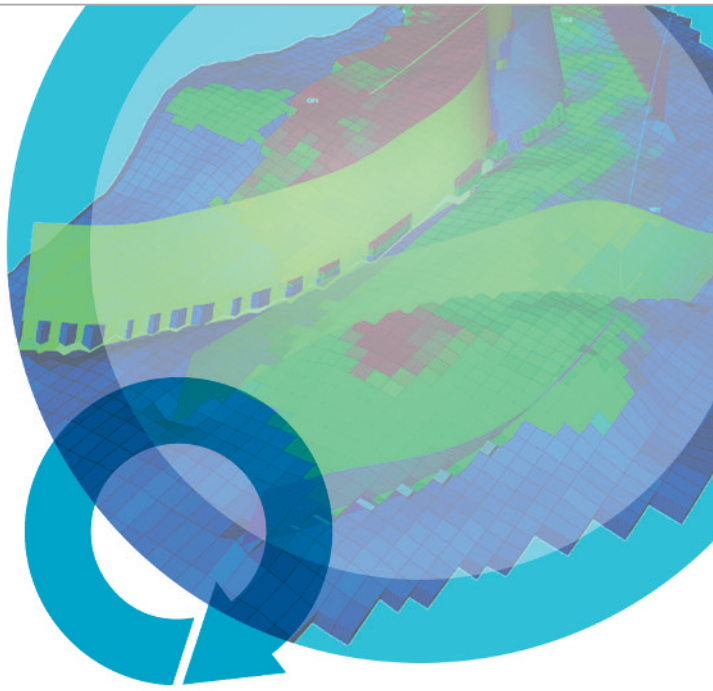
roxar
MAXIMUM RESERVOIR PERFORMANCE



Tempest

Fast integrated full-field simulation

The Tempest reservoir simulator provides a modern integrated solution for full field reservoir simulation. At its heart is the MORE engine which runs fully implicit studies and supports a wide range of advanced options.

NEW!

Tempest 6.3 Parallel

Version 6.3 of Tempest provides users with the ability to take advantage of the power of parallel processing. Now that many standard desktop machines have multi-core CPUs, even Tempest desktop users with this technology can see an immediate speed-up on their simulation runs, allowing larger problems to be run, or more realizations of the same problem to better quantify uncertainty. This will lead to better quality of decision-making and improved field performance.

Benefits

- Fractured systems may be modeled using single grid dual porosity source-sink method
- Full tensor permeability can be used for complex heterogeneous reservoirs
- Gas Lift Optimization option
- Todd-Longstaff Solvent Option for miscible displacement modeling
- Well event history information format to simplify data preparation and input
- Eclipse run summary files (.RSM) may be loaded and displayed
- Reporting groups can be identified by the user
- Cell histories and property statistics can be displayed
- Wide range of physical processes simulated within a single program including black oil, steam, polymer, dual porosity, equation of state and coal bed methane
- Fast simulation with low memory usage
- Support for very large models by using coarsening
- Advanced visualization including stereo and intelligent well display (Figures 1 & 2)
- Simulation run time monitoring
- Powerful graphics
- History match well ranking
- Integrated economic analysis

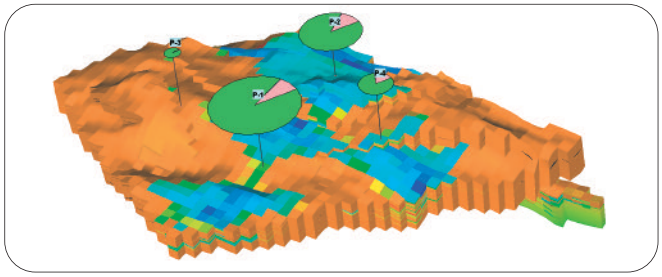


Figure 1: Pie charts showing production totals for individual wells

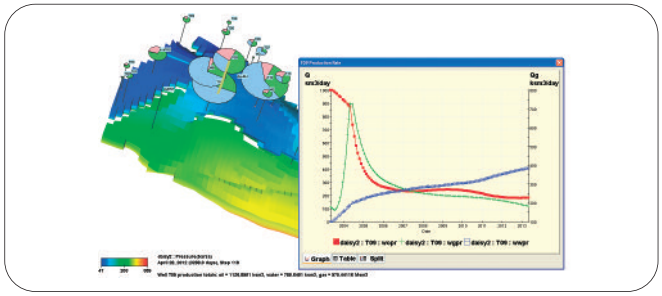


Figure 2: Production plots produced by selecting wells

Advanced visualization

Multiple 3D views can be displayed at once. The model can be zoomed, panned, rotated, sliced and filtered. Models may be viewed in stereo and on dual screen computers.

3D Wells

Pie charts provide a direct indication of production and injection rates and totals on the 3D viewer. The charts animate as the model advances in time. Line graphs of production are available directly by selecting a well, or group of wells, on the 3D viewer.

Data Preparation

Users can easily get up and running by using the wizard to create an initial simulation model. The model can then be modified with real data. The Explorer interface of Tempest provides a graphical view of the simulator input files backed by an integrated text editor for making changes. Context sensitive help is available on all simulator keywords from Explorer and the help system includes a fast and powerful search facility.

Run Time Monitoring

There is close integration between the simulator engine and the user interface. Jobs may be submitted, monitored and stopped interactively (Figure 3). Errors in the data are reported to the interface and the problem line in the data located by double clicking the error message (Figure 4).

Figure 3: Run time monitoring of a simulation

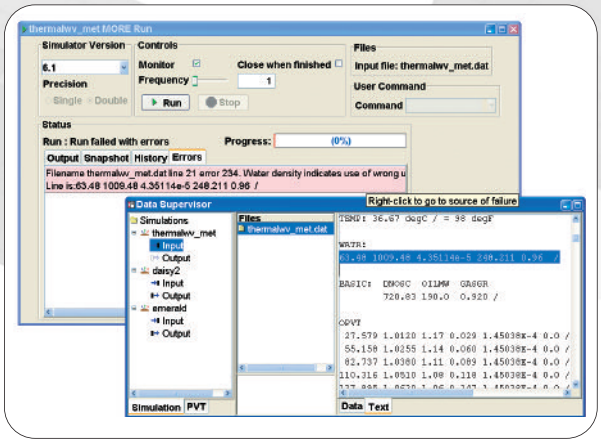


Figure 4: Integrated error handling

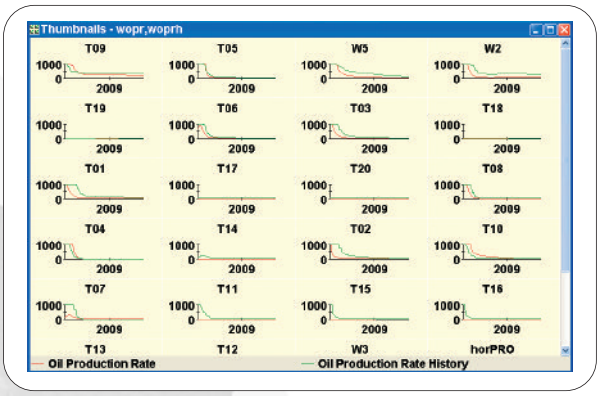


Figure 5: Thumbnail display of predicted and historical rates

Line graphics

Multiple line graphs are available. These allow viewing of all summary data such as rates, totals and pressures. Comparison plots are easily made and sets of plots can be saved, restored and shared across an asset team. Data for individual layers and completions can also be plotted. The results for large numbers of wells can be quickly scanned using the thumbnail graph display (Figure 5).

Integrated tools

Tempest contains additional modules for setting up new simulations, performing economic analysis (Figure 6), generating well lift tables, well history data, characterizing reservoir fluids and generating reports.

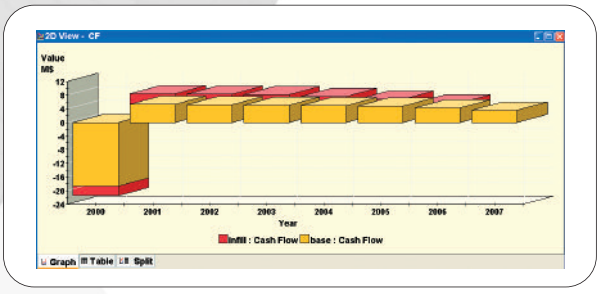


Figure 6: Cashflow analysis

Portability

Tempest runs on Windows (32 and 64 bit), Linux (32 and 64 bit), HP-UX, Sun-Solaris, IBM-AIX and SGI-IRIX. AMD Opteron, Intel Xeon EM64T and Itanium 2 chips are supported.

For further information please contact your regional office or email: roxarinfo@roxar.com or visit www.roxar.com

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