Society of Petroleum Engineers
Annual Conference and Technical Exhibition[1]
Houston, October 2004

85th anniversary of Earl Halliburton's company[2]

Highlights & themes

With a reported 10,482 in attendance (the largest since the early 1980's), 500 papers and 350 exhibitors, you would have though that the Annual Conference and Technical Exposition of the Society of Petroleum Engineers would have been buzzing. It wasn't. Maybe it was the Houston location, which paradoxically, makes it easy for folks to sign up, but stay in the office, or just make a brief appearance. Maybe, with oil breaking the $50/bbl barrier, folks were suddenly too busy to make the trip across town. In all events, the exhibition area remained quiet for the duration of the show.

While 4D time-lapse seismics is now a widely accepted technology for production optimization, the same cannot be said for real time. Although interest (and hype) in the 'e-field' or 'i-field' abounds, take-up of real-time production technologies is not as fast as most expected a couple of years ago. This is partly because of the complex, interdisciplinary nature of the simulation – optimization – production control loop. These techniques are stressing the 'silo' boundaries in oil companies. The contractors' own organizations also make it hard to know exactly who is in charge of real time technologies. But real time operations centers have come of age in drilling and production is undoubtedly next. The components are already there, from sophisticated valves, multi-phase meters to optical sensors and actuators. Oh and software of course, boatloads of it.

In the software field, we noted a brand new 'seismic to simulator' interpretation suite from JOA – Jewel – a spin-off from Shell's .NET migration. A lot of consideration is being given to the data avalanche from real time production systems – with data historians (from OSIsoft) and data mining from Schlumberger. Marriages are in vogue – with Landmark and Weatherford's E-Production Solutions teaming up in one corner – and with Schlumberger and Aspen Technology in the other. But much petroleum engineering software does not come from the main vendors' software units but from

[1] See also the 2004 SPE ACTE home page.

[2] Image courtesy Halliburton – note Houston streets haven't changed.

deeper down inside the wireline or production tools parts of their own organizations. Elsewhere, much software is delivered by, or attached to, specific tools or services (chemicals, waste disposal…), making the integrator's job interesting.

In the simulation arena the offering is getting extremely granular – with companies offering high-level optimizing toolkits which run simulators from major vendors under the hood. Elsewhere independent vendors are applying techniques like streamline and network modeling to simulate various parts of the production system. Optimization itself can take place at many scales – from perforations to portfolios. ECL (originally behind Schlumberger's Eclipse) is back with a new reservoir simulator TechSim.

Highlights

Real Time

4D seismics

CAD-based reservoir modeling

Google search appliance

JOA Jewel – new seismic to simulator suite

Weatherford EPS and Landmark

Zebra's 1½TB Hologram

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