



FEATURE STORY

Increasing Value Right from the Start

By Dan Piette, OpenSpirit President & CEO



There are no secret problems in oil and gas. All of our clients face the same basic challenges, with some special problems layered on top of those that each individual company needs to address. But you could

start with some issues that everyone acknowledges.

More data is available than ever before

Oil companies today pay for more well, seismic, and land data than ever before. This data must be processed, integrated, and interpreted into existing data models and data bases. I had a meeting recently with an executive at an IOC – he told me that their biggest problem right now is getting all the new well data integrated into existing earth models once a well is drilled.

The easy oil is gone

As trite as this sounds, this problem drives most of the investment decisions by oil and gas companies today. Not only is the easy oil gone, but IOCs now have less access to exploration plays than in the past. The NOCs control 93% of the world's reserves and about 71% of the world's production. (Simmons & Co Estimates). Even when partnering with NOCs, the IOCs are forced to bring their best technology and people to the table.

Reservoirs are more complex

The corollary to point #2 is that reservoirs are much more complex, and in much less forgiving environments. Sub-salt, sub-basalt, stratigraphic traps, shale gas, coal bed methane – these all must be exploited to produce the reserves needed today.

Professional resources are tight

Sure, we hear about the big layoffs, but when was the time you heard about a top quality oil finder who was looking for work? That just doesn't happen. The fact is still that we work in an aging industry and the brains in the business are getting older and closer to retirement.

Obviously, these big problems are not the only ones we are facing. We are confronted with the same problems as the rest of the world. Capital is hard to get, and very expensive. And the oil industry runs on borrowed money. Even companies with large cash balances have to borrow money to run operations, and when money is tight, operations suffer.



Financial whiplash

The fluctuation in oil and natural gas prices do no favors for legitimate players in the business. As I write this, oil prices dropped about \$3/bbl – almost 4%. There are not many businesses in the world

that see their prices change 4% in one day. Nor do they see a price drop from \$147 to \$35 in the course of a month (65% in a month! No wonder most oil companies are reluctant to make long term plans!). I have talked with many oil companies who tell me that they can live with \$50 oil, they can live with \$100 oil, and they can live with \$150 oil. But it is hard to live with and plan for the huge fluctuations we have been seeing over the past year.

The investment community is restless in energy. You can see it by how volatile stock prices have been over the past year. Anadarko's stock 52-week high/low is 69.37/29. Chesapeake's is 30/9.84. Heck, ExxonMobil is 83.64/61.86! Schlumberger is 71.10/35.05 and Halliburton is 32/12.80. Investors vote with their dollars. And they expect action even in trying times.

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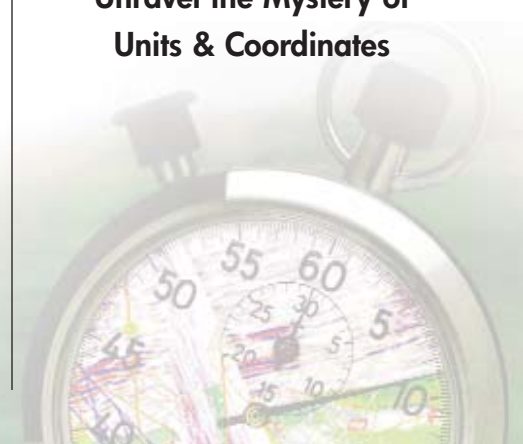


Digital Pathways Delivered

Achieve Exponential Efficiency

Break Free from
Application Bias

Unravel the Mystery of
Units & Coordinates



OpenSpirit Releases New Ocean-Petrel Application Adapter

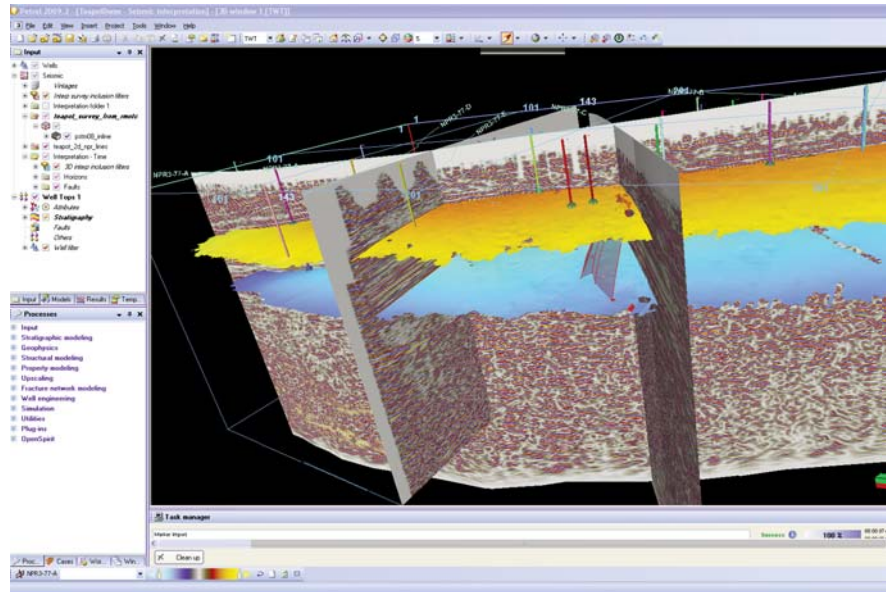
Using the new Ocean-Petrel Application Adapter (OPAA) from OpenSpirit, you can access G&G data anywhere in the enterprise and take control of your interpretation workflows. Focusing on interpretation is now easier than ever before.

Released on November 10, the Ocean-based adapter offers seamless access to all the industry-standard project data stores, including GeoFrame, Finder, OpenWorks, PPDM, Recall, SEG-Y, SDE, and KINGDOM. End users can simultaneously work on multi-vendor and cross-disciplinary data stores with a simple step, without the need to learn multiple user interfaces. Petrel users can now be liberated from the time-consuming task of searching for the right data to load into Petrel.

Customization and Ease of Use

OPAA offers enhanced workflow possibilities and ease of use for both new and existing Petrel customers, such as:

- Data type and event coverage for well, seismic, interpretation, and culture data:
 - Well data includes well logs, picks and velocities
 - Interpretation data includes horizon grids, fault polylines, fault pointsets, and horizon-fault boundaries
 - Import 2D/3D seismic surveys, lines, and datasets
 - Import horizon and fault pointsets and horizon-fault boundaries
 - Send/receive cursor tracking events
 - Send GIS events for objects with geometry
 - Selectively view bulk data on demand, such as previewing selected lines from a large 3D seismic volume without having to load entire data into memory
 - Import point, polyline, and polygon features directly from SDE
- Match-N-Merge ability allows easy synchronization of data between Petrel projects and project data stores using familiar Petrel user interfaces. Users can control which attributes to match.
- Audit trail on objects imported/exported via OpenSpirit enables history tracking.
- Automatic unit and coordinate conversions from project data store to Petrel on the fly.
- Work simultaneously with data from multiple projects setup with multiple unit and coordinate systems. OPAA will do the hard work of presenting data in a user-preferred unit and coordinate system using industry-standard EPSG codes.
- Intuitive project wizards offer a simplified user experience. Wizard-Driven Data Validation prompts users when critical data is required, eliminating errors resulting from incorrect project setup, such as invalid cartographic reference, unit, or seismic reference datum.
- Interact with other OpenSpirit-enabled applications using OpenSpirit Data Selection/Grid/GIS events.
 - Send well information from GOCAD to Petrel or send culture data from ESRI ArcMap to Petrel
- Interact with other applications, such as iPoint, SeisWare, RokDoc, ProSource, Google Earth, and the OpenSpirit Web Server.
- Import, save, and display attributes from data stores even if attributes do not map to standard Petrel attributes.
- True **certified** Ocean plug-in released, maintained, and supported by OpenSpirit.



You can download the OPAA installation kits at: <http://www.openspirit.com/supportdl>

Release notes: <http://www.openspirit.com/docs>

User Name/Password: openspirit/osplvwle

For more information about using Ocean-Petrel Application Adapter to streamline your G&G workflows, contact OpenSpirit today! ◆

The action they expect is to bring finding costs down, and have every company become more efficient.

The industry continues to see more consolidations and opportunistic mergers. Both on the oil company side and the oil field service side of the business, and companies are combining resources to become more efficient. It is similar to what happened in the last boom. If you were not looking to acquire someone, you were probably a target of an acquisition campaign.

The net result of all this is that the low-cost producers still win. They make more money when the prices are high, and they are the last to shut in production when prices are low. They don't worry about guessing tomorrow's oil price as much as next year's oil price. It is like the old joke about the lions and the gazelles. The slowest gazelle still has to be faster than the fastest lion. The oil company who has the lowest cost of production is the last one caught.

Data and integration headaches

Think about the problems that oil companies have with what might be called "stranded data". A few years ago I was at one of the Digital Energy Conferences here in Houston. The CIO of a major oil company said two amazing things: One was that 50% of all the well logs they collect (and pay for!) are either lost or thrown away. The other was that 75% of the seismic data they buy is never used.

That is what I mean by stranded data. There is about \$7 billion a year of seismic data sold by the top three seismic companies. If you add in all the other seismic companies, and then all of the companies who sell library data, it is probably well over \$10 billion a year. Just for the seismic data! And to think that 75% of that data is not used! As I said, stranded. The well data story is even worse. This is data that once it is lost, it is lost forever. You can never (well, okay, almost never) go back and re-log a well. You can go back and collect seismic data again. (And yes, I know you can go back to the company that collected the data in the first place and get another copy. But indulge me here!).

Imagine if you had immediate access to all the data right from the start of your project! Imagine that when you get new data from a well you could see it appear magically on your interpretation! Think of the time savings if you had a map showing all your G&G data in one place, and all you had to do was circle the area and all the wells, picks, interpretations, faults, and seismic data would automatically be transferred into your KINGDOM project! And it wouldn't matter whether the data was in OpenWorks, GeoFrame, Finder, PPD, or any number of other project or corporate data stores! That would go a long way to eliminating the problem of stranded data.

Another problem we face in the IT part of the oil and gas world is that many of the software companies don't "play nice" with each other. Why should they? They have no incentive to make their competitor's lives easier. They have no incentive to open up data stores – new or old, without some form of competition.

Integrated efficiency

But think about how valuable it would be if you could really choose the best-of-breed software for your geoscientists. It would certainly make their jobs easier. It would make them more efficient, and coupled with eliminating stranded data, probably lower your finding costs.

And that is exactly what OpenSpirit has been doing right from the start. The charter of the company from day one was two-fold – data access and application integration. All this with the overarching goal of vendor neutrality. It is best for the oil companies if the software companies concentrate on science, not infrastructure.

OpenSpirit is a pure integration infrastructure play. We do not make the databases, we just enable access to them. We do not collect the data, we just make sure it is available. We do not write the interpretation applications, we just make sure that they talk to their competitors.

That is how you increase efficiency in a world that values speed, accuracy, and performance above all else.

OpenSpirit has been right from the start. ◆



OpenSpirit v3.2 Coming in December

The latest version of OpenSpirit is scheduled for release before the end of 2009.

Enhancements will include:

- New-style data connectors for Epos 3 and OpenWorks 2003.12
- KINGDOM 64-bit connector
- GeoFrame 4.5 and Petra 3.2.4.1 support
- Application Adapter Toolkit updates
- API enhancements events, session, security
- New OpenSpirit Desktop plug-ins for Admin Tools
- Updated User Manager, License Manager, Installation, Data Source Configuration

2010 Events and Technical Symposia

- SMI Information & Data Management Conference, London, February 9-10
- ESRI PUG, Houston, February 22-24
- GEO2010, Bahrain, March 8-10
- EAGE, Barcelona, June 14-17
- SEG, Denver, October 17-22
- OpenSpirit Technical Symposium, Europe, more info to come
- OpenSpirit Technical Symposium, Houston, More info to come

OpenSpirit Training Dates

OpenSpirit Basics

- December 1, 2009
- March 2, 2010
- June 9, 2010
- August 31, 2010
- November 30, 2010

OpenSpirit for Administrators

- December 2, 2009
- March 3, 2010
- June 10, 2010
- September 1, 2010
- December 1, 2010

For more information and to register:
www.openspirit.com/train



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OpenSpirit Announces New Business Partners



Customer demand for greater access to DownUnder GeoSolutions' suite of leading-edge quantitative interpretation software and supporting tools has prompted

the company to commercialize their solution. As part of this release, DownUnder is using the OpenSpirit interoperability framework to enable connectivity to multi-vendor applications and data stores and ensure DUG software is immediately integrated and accessible for their users' workflows.

To ensure application and data store connectivity and interoperability for as many clients as possible, DownUnder GeoSolutions has chosen to use the OpenSpirit software developer kit. "When considering connectivity, we immediately decided to team with the market-leading OpenSpirit, as we know they provide effective integration among a range of popular E&P applications and data sources," said Matt Lamont, Managing Director of DownUnder GeoSolutions. "The OpenSpirit application and data store connectivity layer will allow even broader opportunities for data exchange and application interoperability, allowing DownUnder to focus on our core business and not data access".



OpenSpirit announces that EnergyIQ, a Denver-based E&P data management solutions company, has joined the OpenSpirit Partner Program and will OpenSpirit-

enable their flagship product, EIQ Loader. Using this technology, companies will be able to read data from a number of external vendor sources, including the new IHS EnerdeqML global data feed, and write it to any OpenSpirit-enabled data store.

"This approach will ensure that commercial E&P data is loaded and updated in a consistent and timely fashion across any data management strategy, providing broader access to the available data," said Steve Cooper, President of EnergyIQ. "OpenSpirit connectivity will extend our existing support for PPDM to include other industry databases, including KINGDOM, OpenWorks, Petra, GeoFrame, Finder, and Recall, ensuring customers that all available data is up to date, in sync across systems, and available to end users across the organization."



Austin GeoModeling (AGM) will leverage the OpenSpirit interoperability framework to enable users of its RECON 3D geological interpretation

solution to more easily transfer data to and from third-party software. End users will now be able to integrate Recon seamlessly into their existing seismic to simulation workflows, transferring data between Recon and existing geology, geophysics, and engineering software platforms quickly and with minimal effort.

"RECON accesses well logs and seismic data directly from OpenWorks and SeisWorks databases and combines them to create a truly integrated geologic interpretation," said Robin Dommissé, CEO of AGM. "Using the OpenSpirit integration solution, our customers will now be able to bring in data from other data sources and applications and have more flexibility within their E&P workflows."



ffa, a world-leading provider of 3D seismic analysis software and services and OpenSpirit Corporation have entered into a Business Partner Agreement to provide multi-vendor connectivity to

users of ffa's 3D seismic analysis products using the OpenSpirit Software Development Kit. ffa's SVI Pro and SEA 3D Pro seismic analysis applications will be able to reach out to any OpenSpirit-enabled data store to access data and share interaction events with other geotechnical software.

By providing direct access to data stores through an OpenSpirit-enabled data connector, data import and export to ffa applications will be simplified by eliminating manual SEGY file read/write steps," said Steve Purves, ffa's Technical Director. "By providing an OpenSpirit data connector, users will be able to maximize the productivity gain our software gives them, by working seamlessly with their data management infrastructure. Getting data in and getting results back out will come down to a few familiar mouse clicks for OpenSpirit-enabled users."



Midland Valley

Building on their proven track record of providing leading-edge geological structural software and consultancy solutions to the E&P

community, Midland Valley, creator of 2DMove, 3DMove and 4DMove, has joined the OpenSpirit Business Partner Program to OpenSpirit-enable future Move software suite releases. Geoscientists will have seamless access to multiple geological and geophysical data stores, and a single view to their corporate upstream assets.

"The OpenSpirit Business Partner Program allows companies like Midland Valley to use and implement OpenSpirit as part of their consulting and software core business," said Colin Dunlop, Director of Software Development at Midland Valley. "The OpenSpirit interoperability and data store connectivity layer allows our development team to focus more on delivering a geologically focused application for our E&P clients, giving them direct access to their standard subsurface data in a variety of formats and data stores."

Read more about these new partners!

www.openspirit.com/news



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