



FEATURE STORY

The Map is Not the Territory

By Dan Piette, OpenSpirit President & CEO



"The map is not the territory; the word is not the thing defined."
-- Alfred Korzybski.

When you look for oil and gas, you have very limited information. As a matter of fact, the only direct

indication that you have found oil or gas is the oil or gas itself. Sure, if you have enough money you can cut a couple of side-wall cores, or even core the whole hole if you are crazy.

You can also take a look at the cuttings and get your mud logger to taste the mud and check for florescence. Then, after you have drilled the well, you can log the well. Maybe some deep induction logs can get to about 7.5 feet from the hole, but by and large you get a little past the mud cake.

But, of course, you say! That is intuitive. Oil and gas is not a game of inches, it is a game of milliseconds!

And what is the resolution of seismic data? Of course, that depends on the depth of the target, because the earth is a filter. Higher frequencies mean higher resolutions, but that also means shallower targets. So from here: (<http://www.geol.lsu.edu/jlorenzo/ReflectSeismol03/resolution.htm>) we can say shallow resolution is 10 meters, deeper resolution between 125 and 250 meters (1/4 or 1/8 wavelength).

125 meters! That is more than 410 feet! And now you tell me you are looking for thin beds at depth? Yipes!

Ah, you reply again! But we have gravity and magnetic! And their associated gradients, as well? Here you not only have a problem with resolution, (this coming from the guy who sold you size, shape, and thickness for three years), but with a little problem they call "non-uniqueness". A broad

shallow body looks exactly the same as a deep, dense, small body. I can show you the math.

But we know that the map is not the territory. Korzybski tells us so. So what do we do?

Synergy. Integration. Mash-ups.

The whole is always more than the sum of the parts. If we look at a system holistically instead of in a reductive sense, we get to take information that may be valid a few inches from a well bore, and then equate it to something that may be valid hundreds of feet from a well bore.

And how do you do that? You make the map. You make the map the territory.

The territory in this case is nothing more than a representation of the surface you are tracking. I know, I know – you say that in complex systems the only perfect model is the item itself. But we are not trying to model a babbling brook here. (Does anything besides brooks and babies babble? I suppose that it is the alliteration associated with it. Maybe bores babble, too. I wouldn't know, would I?) We are trying to find oil.

GIS systems are now available that let you integrate all this disparate data on one map. This map, while not the territory, is getting closer. You can now take information from a well log, a seismic line, a gravity gradient survey, and a remote sensing satellite and put them all ON THE SAME MAP!

This is holism at its finest. And the partnership between ESRI and OpenSpirit is at the core of this success. Because of the way that OpenSpirit accesses data from all of the major oil and gas data stores, and because of the way the ESRI petroleum solutions help oil companies manage their location-based data across the E&P lifecycle.

With the advent of interactive desktop GIS systems, the power of these maps, which are not the territories, are becoming common. I remember when (yeah, you have heard this

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OpenSpirit Named ESRI Partner of the Year

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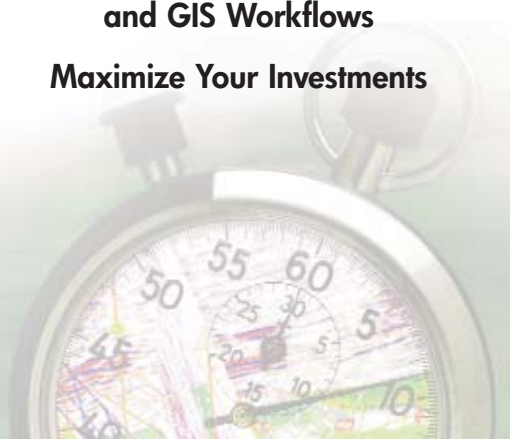


**Build Multi-Vendor,
Integrated Workflows**

**Achieve Unit & Coordinate
Transparency**

**Integrate Your Subsurface
and GIS Workflows**

Maximize Your Investments



OpenSpirit Receives ESRI Foundation Partner of the Year Honor



OpenSpirit received the ESRI Foundation Partner of the Year award for its work in the Energy Sector at the 2010 ESRI Worldwide Business Partner Conference in Palm Springs, California. The award was presented by Jack Dangermond, President of ESRI, to Brian Boulmay, Business Partner Director, OpenSpirit.

From ArcGIS Desktop to ArcGIS Server, OpenSpirit integrates with all levels of ESRI GIS technology, facilitating cross-disciplinary mapping and spatial data management workflows between GIS, geology and geophysics, as well as integrating subsurface workflows and data with surface workflows and information, such as Land, HSE, Transportation, Pipeline and other departments of oil companies.



“Through the Partner of the Year Award for the Energy Sector, ESRI recognizes the outstanding contribution OpenSpirit has made in their promotion of spatial data management as a key component of an oil company’s enterprise data integration strategy,” said Dangermond. “Their revolutionary platform enables end users to combine the capabilities of the ArcGIS platform with industry-leading geotechnical and geoscience solutions in elegant and highly effective practices.”

Since becoming part of the ESRI partner family in 2000, OpenSpirit has developed a comprehensive suite of GIS tools, including an ArcGIS Desktop Extension, an ArcGIS Explorer Add-in, a Scan Utility that spatializes subsurface databases, an ArcGIS SDE Data Connector, and the integration of ArcGIS Server and ESRI Web services with OpenSpirit REST Web services. End users have the flexibility to leverage their ESRI GIS client of choice, with the simplicity of managing just one integration platform.

“We are honored to receive partner of the year recognition from ESRI,” said Dan Piette, President & CEO of OpenSpirit. “The energy industry is a spatial business and we have focused on ensuring our technology is integrated with ESRI tools since our company’s inception. This collaboration helps our mutual customers manage their complete business workflows via a single integration layer, and ensures accurate and repeatable coordinate, unit, interoperability, and data access processes. We are continuing this focus in 2010 with the release of several new GIS products.” ◆

Suri Bhat and Brian Boulmay Take on Expanded Roles

To better meld our client’s needs with our development capabilities, Suri Bhat and Brian Boulmay have been promoted to the positions of Product Marketing Director and Director of Business Partners, respectively.

“We are fortunate to have a family of dedicated and productive employees,” said Dan Piette. “Suri and Brian are two of the people whom we see leading us into the future, and in recognition of that, they have been assigned additional responsibilities that will help make OpenSpirit a better company.”



As **Director of Product Marketing**, Suri will work closely with customers to turn their requirements into product solutions. He is responsible for product strategy, planning and marketing at OpenSpirit. Suri has extensive experience in the design, development, and delivery of software solutions to the E&P industry.

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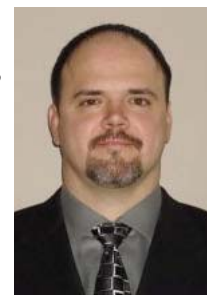
Suri Bhat

Prior to joining OpenSpirit in 2007, Suri performed software development and product management roles at Wellogix, Landmark, and Ensyte Energy Software International.

He holds a Bachelor’s degree in Machine Tool Engineering from University of Mumbai, a Masters degree in Industrial Engineering from the University of Houston, and is earning his M.B.A from Texas A&M University in 2010. ◆

Brian joined OpenSpirit in early 2008 as Business Partner Manager and has many years of experience with upstream technology and GIS across Shell E&P, Telvent and ESRI. He has led the efforts to define and implement the Partner Program at OpenSpirit and under his leadership, OpenSpirit has more than doubled the number of active partners.

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Brian Boulmay

As **Director of Business Partners**, Brian will lead the business partner team, as well as support the company’s efforts in the development and deployment of market-driven GIS products.

Brian holds a B.S. in Geography/GIS, an M.S. in Geographic Science, and an MBA. He has also completed requirements for both the GISP and CMS GIS/LIS certifications. ◆

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before) when you had to define a GIS using a command line code, and if you were lucky, when you printed off the map on a big old Versatek line printer it would come close to representing the territory you were hoping it would.

But it usually didn't, and you would have to re-enter the data, run the program again, and hope for the best.

Now, the Bible tells us that the fight is not always to the strong, nor the race to the swift. But Damon Runyon tells us that's the way to bet. So let's look at...

The Strong and the Swift

ESRI has been around since 1969, and has come to completely dominate the professional GIS market. It is hard to underestimate the excitement here at OpenSpirit when they named us their partner of the year in oil in gas. We had people bouncing off the walls. Literally. Well, one person was bouncing off the walls, but it was entirely justified. We have been working with ESRI since 2000, which is almost the inception of the company. With ESRI, you have a panoply of solutions, from the low-cost, simple-to-use mapping solutions to the most sophisticated enterprise-wide mapping environment that you could possibly use. The strength that ESRI brings to the oil and gas world is indisputable. They have the people, the technology, and the client base that no other GIS company can touch.

We at OpenSpirit have been developing solutions that use ArcGIS products in a number of different ways. You need to get your OpenWorks data on an ESRI map? We can do that. You want to be able to actually do something with that data? We can do that too. How about using ArcGIS as a mash-up site for all your GeoFrame, KINGDOM, and Petra data? That is what we do. Find the data. Map the data. Access the data. Move it if you want, leave it if you don't. Perform analytics, write scripts, manage and verify, clean and fix. And when I talk about swift, I mean swift. There is no way to get your data onto a map faster than through OpenSpirit.

Map integration. It has become so common that we just cannot live without it anymore. But let's remember who brought you this integration. ESRI. And OpenSpirit.

That's the way to bet. ♦



**OpenSpirit
Technical Symposium
Barcelona | June 18**

Friday, June 18
Hotel AC Barcelona (next to Convention Center)
Social Event for Technical Symposium Attendees
Thursday, June 17 at Mirabe
Details and Registration Information
www.openspirit.com/symposium

OpenSpirit Developer Forum and Training Program in April

Registration is open for the OpenSpirit Developer Forum and Training Program

Designed for developers, team leads, development managers and product managers, attendees will gain in-depth knowledge on how OpenSpirit technology can be best deployed in their environment.

Developer Forum (April 15)

- For developers, team leads, development managers and product managers who want an overview of the OpenSpirit technology
- Gain a better understanding of OpenSpirit products, architecture, and software development kit (SDK)
- Understand how to integrate OpenSpirit into their products and future development efforts

Developer Training Program (April 27-29)

- For developers who want hands-on training (C++, C#, or Java exercises) to better understand how to implement OpenSpirit integration solutions in their environment
- Using OpenSpirit Software Developer Kit, attendees will learn how to use each OpenSpirit service and be introduced to best practices for solving common integration challenges

Register today at:
<http://www.openspirit.com/train/21.htm>

Intelligent GIS: Keeping Your GIS Data Connected to Your G&G Applications and Data Stores

Multi-vendor environments are necessary to fully leverage the diversity of analysis and tools available to manage today's E&P workflows. Increasing reservoir complexity, shortage of personnel, increasing data volumes, and the need to make decisions faster than ever are introducing new technologies, data and workflows into our environments at a rapid pace.

From desktop to server, OpenSpirit integrates with ESRI GIS technology, enabling cross-disciplinary mapping and spatial data management workflows. End users can visualize, quality control (QC), create and deliver "Intelligent Maps," and streamline collaboration and interpretation for their asset teams.

- Choose the best applications aligned with your data management strategies (cross-vendor/cross-platform)
- Seamlessly access data from any OpenSpirit-enabled data store via 40+ partners application adapters
- Combine diverse applications to produce innovative cross-vendor workflows – data management/movement, GIS integration, G&G workflows, and application interoperability
- Leverage your investment across desktop and Web applications

OpenSpirit GIS Solutions

By integrating with ESRI GIS solutions, OpenSpirit provides powerful tools to help you integrate G&G spatial data with your GIS and maintain integrity among your project data stores and cross-disciplinary applications.

- **ArcGIS Extension** – Use ArcGIS as a spatial selection tool to view spatial data accessible via OpenSpirit and simultaneously integrate/interact with multiple OpenSpirit-enabled applications. The OpenSpirit ArcGIS Extension enables synchronization between your GIS and OpenSpirit-enabled applications and data stores.
- **Scan Utility** – Create shape files or write to SDE by extracting GIS spatial information for well, seismic, and interpretation data from any OpenSpirit-enabled data store. Schedule scan jobs to collect spatial data at regular intervals.
- **SDE Data Connector** – The OpenSpirit SDE Data Connector enables OpenSpirit-enabled applications like Irap RMS, Petrel, and the OpenSpirit Web Server to read spatial data stored in SDE.
- **ArcGIS Explorer Add-in** – Browse spatial G&G data using this FREE adapter that uses OpenSpirit data selection and GIS feature events within the ArcGIS Explorer environment.
- **ArcGIS Server** – Transform your data and information portals from read-only to interactive data access and query engines by sending OpenSpirit data selection and GIS feature events from your ArcGIS Server browser to any OpenSpirit-enabled application that supports these events. Samples are available in WebADF, Javascript, and Silverlight.

Give your geoscientists and engineers the confidence, motivation, and access they need to leverage your GIS framework. Contact OpenSpirit to learn more about these and other innovative ways to energize your GIS integration, data management and portal workflows! ◆



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SOUND BYTES

OpenSpirit v3.2.1 Available

Release Notes:

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

Download the v3.2.1 installation kits at:

<http://www.openspirit.com/supportdl>

User Name/Password: openspirit/osplwle

New Release of ArcGIS Explorer Add-in

The ESRI ArcGIS Explorer offers a free easy to use spatial browsing tool that can display a large variety of spatial formats. With the addition of the OpenSpirit Add-In, you can extend its functionality to allow a user to browse well, seismic, and interpretation data coming from a variety of G&G data stores and to bidirectionally share interaction events with other OpenSpirit-enabled applications.

Download:

<http://www.openspirit.com/solution-sub/2/73.htm>

2010 Events and Technical Symposia

- PNEC, Houston, May 18-20
- EAGE, Barcelona, June 14-17
- SEG, Denver, October 17-22
- OpenSpirit Technical Symposium, Barcelona, June 18 **REGISTER TODAY!**
- OpenSpirit Technical Symposium, Houston, September 28-29

OpenSpirit Training Dates

OpenSpirit Basics

- June 9, 2010
- August 31, 2010
- November 30, 2010

OpenSpirit for Administrators

- June 10, 2010
- September 1, 2010
- December 1, 2010

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

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