Spatial data is a crucial part of your data portfolio, and managing and integrating this data is a core element in your company's integration strategy. Whether you are combining the power of spatial analysis with your diverse geo-technical applications, sharing your spatial data across subsurface workflows, or building corporate information and data management portals, OpenSpirit Group, TIBCO Software Inc., spatializes and integrates your diverse environment and allows you to maintain a live link between your GIS and subsurface information.

**CONNECT YOUR GIS DATA AND 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, innovative science, shortage of personnel, increasing data volumes, and decisions needed 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 simplifying 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
- Seamlessly access data from any OpenSpirit-enabled data store via a host of OpenSpirit-enabled 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

**GIS INTEGRATION WORKFLOWS**

GIS users can put the newest GIS workflows into play with the enhanced TIBCO OpenSpirit® Extension for ArcGIS, which allows dynamic creation of spatial layers from OpenSpirit-enabled data stores, creating flexible “in-memory” feature classes with improved handling of coordinate reference systems or continue to use your corporate layers produced by the TIBCO OpenSpirit® Scan Utility.

Access additional information by running the OpenSpirit Data Selector directly from the ArcGIS Extension or leverage the details function to drill down dynamically for a live look into your database. Have access to all logs, picks, or checkshots for your wells and all volumes, datasets, horizons and fault segments associated with your seismic data.

ArcMap can now view and analyze your subsurface information spatially, while simultaneously interacting with multiple OpenSpirit-enabled applications, knowing that coordinates and units are managed properly. Improved interaction events include sharing view definitions, maintaining symbology between applications, and sending the full set of attributes with GIS and data selection events.

The dynamically created feature classes, based on the source data's original coordinate reference system, are not saved unless you specifically want copies in SDE, file geodatabase or Shape files.

From your G&G applications, get direct access to your spatial data stored in SDE. Leverage the TIBCO OpenSpirit Data Connector for SDE to bring this information straight into Irap RMS, Epos, Petrel, or other OpenSpirit-enabled application adapters that support OpenSpirit cultural data types.

**GEOGRAPHICAL INFORMATION SYSTEM SOLUTIONS**

**TIBCO OpenSpirit Extension for ArcGIS** - View spatial data accessible via OpenSpirit and simultaneously integrate/interact with multiple OpenSpirit-enabled applications. The OpenSpirit Extension for ArcGIS enables synchronization between your GIS and OpenSpirit-enabled applications and data stores. Supported data types include:

- Well surface location
- Well bore bottom location
- Well bore path
- Well pick
- 3D seismic survey
- 3D seismic volume
- 2D seismic line
- 2D seismic dataset
- 2D/3D Horizon grid (seismic or non-seismic), pointset or polyline
- Fault polyline or pointset
- Horizon-Fault boundary
- GIS point/polyline/polygon/grid
- Other functions include: Interactive multi-vendor cursor tracking, Send View Definition, and dynamic subsurface project access

**TIBCO OpenSpirit Scan Utility** - Create shape files, SDE layers or write to a file geodatabase by extracting spatial information for well, seismic, and interpretation data from any OpenSpirit-enabled data store. Schedule scan jobs to collect:

- Well/seismic project outlines
- Well surface location
- Well bore bottom location
- Well bore path
- Locations of well, pick or velocity data
- 3D seismic survey
- 3D seismic volume
- 2D seismic line
- 2D seismic dataset
- 2D/3D live trace coverage
- 2D/3D Horizon grid (seismic or non-seismic)
- Horizon pointset
- Fault segment
- Fault pointset
- Horizon fault boundaries
Use ArcGIS Desktop to access, view, query, and select culture and subsurface data via OpenSpirit, and simultaneously integrate and interact with multiple OpenSpirit-enabled applications and data stores.

GIS DATA MANAGEMENT WORKFLOWS

Data managers are challenged to provide accurate and current data from multiple data sources to a variety of users that are working across a diverse set of applications. With a balance of automation and customization, the new TIBCO OpenSpirit® Scan Utility solves this issue for your well, seismic, and interpretation data stored across any OpenSpirit-enabled data store.

Create specific model views with the new Model View Manager, which allows customization of data views at any level of detail, giving complete flexibility for presenting data the way your users need to see it.

Configure the Scan Utility in basic mode for standard options or leverage advanced selection capabilities with the embedded Data Selector. Use new Scan Rules to scan only modified items or set update functionality. Scan multiple databases at the same time or a subset of projects based on a spatial extent and easily schedule your jobs with the new embedded schedule tool.

Outputs now include shapefiles, SDE and the File GeoDatabase and you can scan to one or multiple formats in the same Scan job. The Scan Utility is extensible, allowing other output format plug-ins to be added over time.

These layers are beneficial in any mapping workflow, but also maintain the OpenSpirit data key with references back to the original source data, providing a live link to your data from any OpenSpirit-enabled spatial viewer.

Use the Scan Utility to maintain up-to-date corporate or project GIS layers providing a complete spatial view of your subsurface data assets. Use these layers for basic mapping, advanced spatial analysis, selection layers for loading G&G projects, summary views of historical or archived projects or data, or to enable QA/QC workflows, facilitating easy comparisons of data from many different projects in a single GIS view.
The TIBCO OpenSpirit Scan Utility allows users to scan all or selected projects in an OpenSpirit-enabled data store and output spatial features as either Shapefiles, SDE, or the File GeoDatabase. These layers include the OpenSpirit data key to maintain an intelligent link between your systems.

GIS PORTAL WORKFLOWS

Many organizations use ArcGIS Server capabilities to bring visualization of maps and data to a larger number of users in a lightweight, browser-based viewer. Some are taking this even further by integrating the maps into existing data management or dashboard portals, bringing together a complete user experience across an asset team’s workflows.

Why stop with just finding and viewing the data? Leverage your OpenSpirit infrastructure along with your ArcGIS Server implementation to allow users to select data from your browser-based map display and broadcast to any OpenSpirit-enabled desktop application enabled for GIS or data selection events. This capability can be easily integrated into your existing internal ArcGIS Server efforts or worked into any third-party solution you have invested in, adding interactive data access to the solution you already have.

The TIBCO OpenSpirit Web Server product brings additional capabilities to this workflow with the option to view well, seismic, and interpretation data in the browser with lightweight Web-based viewers, or generate reports on the fly with detailed information all coming live from your master or project data stores via the OpenSpirit services layer. All of these capabilities allow the selection of data and ability to broadcast data to OpenSpirit-enabled desktop applications.

The OpenSpirit Web Server product uses REST-style Web services, allowing easy integration with your existing environment – no need to replace or rebuild your current systems. The OpenSpirit Web Server runs in parallel to your existing tools, allowing access to more data types and including more reporting and viewing capabilities than ever before.

MAXIMIZE YOUR GIS INVESTMENT

One geodesy miscalculation can mean the difference between success and failure. By integrating with Esri® GIS solutions, OpenSpirit provides powerful tools to help you integrate G&G data with your GIS and maintain integrity among your project data stores and crossdisciplinary applications. Give your geoscientists and engineers the confidence, motivation, and access they need to leverage your GIS framework. GIS workflows have never been easier!
TIBCO Software empowers executives, developers, and business users with Fast Data solutions that make the right data available in real time for faster answers, better decisions, and smarter action. Over the past 15 years, thousands of businesses across the globe have relied on TIBCO technology to integrate their applications and ecosystems, analyze their data, and create real-time solutions. Learn how TIBCO turns data—big or small—into differentiation at www.tibco.com.

©2012–2015, TIBCO Software Inc. All rights reserved. TIBCO, the TIBCO logo, TIBCO Software, and OpenSpirit are trademarks or registered trademarks of TIBCO Software Inc. or its subsidiaries in the United States and/or other countries. All other product and company names and marks in this document are the property of their respective owners and mentioned for identification purposes only.

10/16/15

TIBCO OpenSpirit
4800 Sugar Grove Blvd.
Suite 500
Stafford, TX 77477
+1 281-295-1400 TEL
+1 281-295-1401 FAX
www.tibco.com

Take your online maps to the next level with OpenSpirit Web Services and ArcGIS Server integration. Access, view, report and interactively select data, allowing integration across multiple OpenSpirit-enabled applications and data stores.