



OPENSPIRIT

Interoperability Delivered

To create fit-for-purpose workflows that meet the specialized needs of E&P professionals today, oil and gas companies worldwide are seeking more effective and efficient methods of connecting diverse applications and data repositories.

OpenSpirit is your solution for multi-vendor application and data interoperability. By providing the connectivity that drives cross-discipline collaboration, OpenSpirit lets you build the workflows you need to get the job done, right from the start.



Build Multi-Vendor, Integrated Workflows

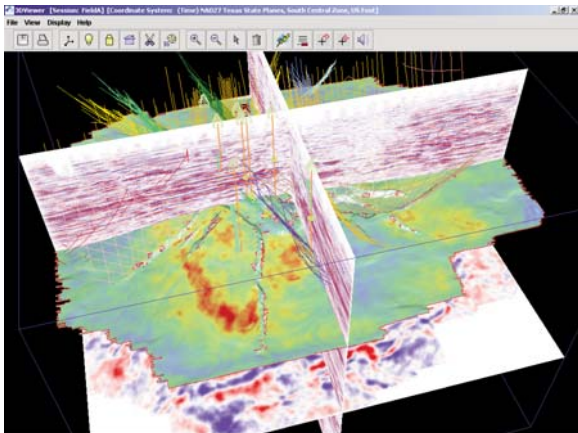
True software interoperability enables two or more applications to act like a single, integrated application by sharing data, actions and events – without the overhead of a database. The benefits lie in saving time by streamlining and customizing workflows.

OpenSpirit helps your geoscientists and technicians manage complex geotechnical workflows, integrate the best technology, and streamline tedious data management tasks.

- 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+ application adapters built by our partners.
- Combine diverse applications to generate innovative cross-vendor workflows – data management/movement, GIS integration, G&G workflows, and application interoperability.
- Leverage your investment across desktop and Web applications in a client/server or portal environment.

“OpenSpirit is the only solution that provides a complete, vendor-neutral platform for E&P data exchange and application interoperability.”

– Arshad Matin, SMT President & CEO



The OpenSpirit Framework includes powerful tools, such as the 3D Viewer, to help manage your data management tasks.

OpenSpirit Runtime

The OpenSpirit Runtime environment consists of a base framework and data store connectors for databases and data formats of your choice. All applications connected to the framework gain direct access to a rich set of services, including management of virtual project sets, conversion of units and geographic coordinate transformations.

- **DataSelector** – generic tool to view/select data
- **3D Viewer** – simple 3D view of all data types
- **Well Viewer** – well track view of logs and picks
- **Section Viewer** – 2D/3D seismic display along with horizons and faults
- **Model View Manager** – customize views to simplify data browsing

OpenSpirit Data Connectors

OpenSpirit enables your applications to create, read, update and delete data from anywhere within your network using data connectors for your specific databases.

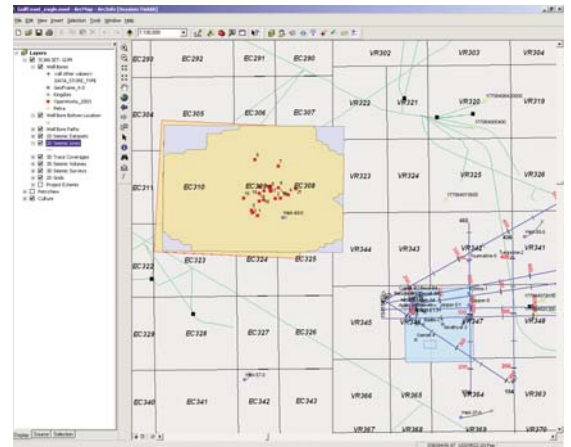
- OpenWorks/SeisWorks
- GeoFrame/IESX/Charisma
- Finder
- KINGDOM
- ArcSDE
- Petra
- Managed SEGY
- Recall
- Epos3/Geolog
- PPDM
Including:
 - geoLOGIC Data Center (gDC)
 - IHS Canadian Data Hub
 - Fugro Trango Well
 - NeuraDB
 - Oilware

OpenSpirit Data Management Integration

Data management workflows accelerate finding, viewing and sharing of data among data stores and applications, whether from your desktop, E&P portal environments, or both. With OpenSpirit, end users can view data concurrently from multiple sources using common viewing tools, while ensuring proper conversion of units and geographic coordinate transformations.

Additional workflows can be designed to visually QC and transfer data to other OpenSpirit-enabled data stores, including the management of real-time WITSML data.

- **Copy Manager** – Transfer data between OpenSpirit-enabled data stores in a single step using data selections based on GIS and attribute queries. A powerful business-rule engine enables customized data transfer and ensures compliance to company standards.
- **Scan Utility** – Build shape files or write to an SDE-enabled database to create GIS spatial information to represent well, seismic and interpretation data from all of your projects in any OpenSpirit-enabled data store.
- **Excel Adapter** – Use Excel to view and analyze data from any OpenSpirit-enabled data store. Recent data types include fault polylines, horizon-fault boundaries, and pointsets.
- **Job Scheduler** – Schedule jobs for data transfer using the Copy Manager or data scanning using the Scan Utility.
- **LoadIT WITSML** – Perform real-time data access and data transfer of critical well data from multiple WITSML server sources to any OpenSpirit-enabled data store.



The OpenSpirit Scan Utility is also used in innovative GIS integration workflows.

Ocean-Petrel Application Adapter

Take control of your Petrel® interpretation workflows with the new Ocean-Petrel Application Adapter (OPAA) from OpenSpirit.

OPAA is an Ocean® Adapter, offering ease of use and enhanced workflow possibilities for both new and existing Petrel users.

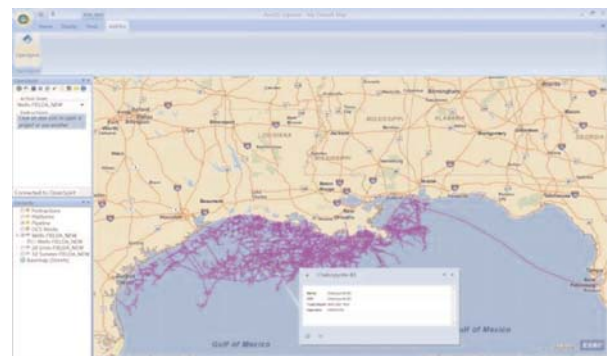
- Interpret more data with expanded data types and events.
- Synchronize Petrel projects and project data stores with dynamic Match-and-Merge.
- Customize business rules used for data import/export.
- Enable direct access and seamless interoperability across your enterprise GIS.

“OpenSpirit has become a de facto standard. People use it because it works.”
– Director of Enterprise Integration,
Large Independent

OpenSpirit GIS Integration

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.

- **ArcGIS Extension Connector** – Use ArcGIS as a spatial selection tool for OpenSpirit data viewers and third-party OpenSpirit-enabled applications. ArcGIS Extension offers intuitive selection attributes and allows ArcMap to receive and display automatically created shape files of many well, seismic interpretation, and culture data types.
- **SDE Data Connector** – Enable OpenSpirit-enabled applications like Irap RMS, Petrel, and the OpenSpirit Web Server to directly read spatial data stored in SDE.
- **ArcGIS Explorer Add-in and Google Earth Adapter** – Send/receive OpenSpirit Data Selection events for well, 2D/3D seismic, culture features and horizon grids and then accurately display these items in Google Earth or ArcGIS Explorer in their real-world location.



Use ArcGIS Desktop or ArcGIS Explorer 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.

OpenSpirit Web Integration

The OpenSpirit integration platform can be configured to meet the needs of your Web-based environment.

The OpenSpirit services architecture gives you the flexibility to activate the same data access, data transfer and data interoperability workflows already familiar to you within your desktop environment.

- **Web Server** –

Execute a subset of OpenSpirit workflows via a pre-configured set of OpenSpirit services that lets you browse or select data, as well as send data selection events to any OpenSpirit-enabled desktop application.

Access these services within your own Web-client browser environment or use the OpenSpirit Web-client browser capability.

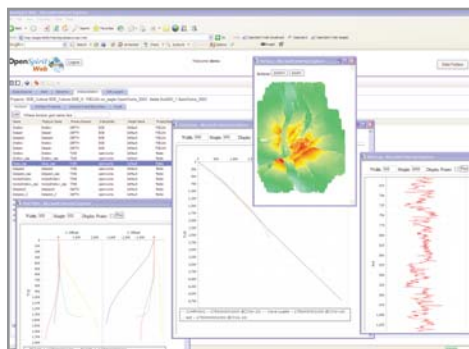


Table view and user selected data types displayed in Web viewers.

- **ArcGIS Server** – Transform your data and information portals from being read-only to an interactive data access and query engine by sending OpenSpirit data selection and GIS feature events from your ArcGIS Server browser to any OpenSpirit-enabled application. Samples are available in WebADF, Javascript, and Silverlight.

OpenSpirit Business Partners

Partners are a key element of the OpenSpirit integration solution. OpenSpirit provide the connectivity environment that drives cross-discipline collaboration and unparalleled data access, enabling our partners to focus on the critical, ever-evolving science that supports their applications.



“To me, OpenSpirit is a no-brainer. Maintaining one plug-in versus a lot of bespoke adapters could save us tens of thousands of pounds – or more – a year. I can’t think of a single reason not to have an OpenSpirit application plug-in.”

— Grant Monaghan, Managing Director,
Perigon Solutions

The **OpenSpirit Business Partner Program** delivers a comprehensive set of tools and support to ensure the success of our partners. Working collaboratively, we can accomplish better results – faster – to bring the right integration solutions to the market at the right time.



Using a robust set of distributed objects and services, the OpenSpirit Software Developer Kit will help you speed the development of your application’s connectivity to OpenSpirit. An

application that uses the OpenSpirit SDK may access data from any OpenSpirit-enabled data store on your network.

Do it Right from the Start with OpenSpirit

Your geoscientists and technicians know that success means melding together the *best* technology from multiple vendors so they can leverage the functionality they need to make the best decisions possible. But your multi-disciplinary team doesn’t have to be slowed down by incompatible file formats and applications. OpenSpirit is your integration solution to make your applications and data stores work together, increasing their productivity and maximizing your entire IT investment.

Whether focused on complex geotechnical workflows or tedious data management activities, your team will be more efficient when they connect their technology using OpenSpirit.

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