ONE VIRTUAL SOURCE®

One Virtual Source® is oil and gas software that delivers data integration and automated workflow solutions. Engineering and asset management teams equipped with One Virtual Source are leading the push towards integrated operations through virtual data integration of distributed databases, real-time-surveillance enabled live analytics using powerful visualization tools, and repeatable workflows and modeling with the integration of commercial and in-house applications.

Deployment of One Virtual Source is designed to fully integrate previously made investments and leverage existing applications and databases. The software framework does not create any additional databases that need to be maintained. Instead One Virtual Source accesses your data in-place and provides easy-to-read, contextual displays that eliminate challenges associated with complicated data access and manipulation mechanisms. Coupled with sophisticated analytics and unparalleled configuration capabilities, One Virtual Source delivers a complete workflow automation experience tuned to your assets.

ADVANTAGES

1. Integrates broad databases and files without replication or migration of data

2. Surveillance By Exception™ and analytics through maps, plots, tables, charts, and more

3. Workflow automation with integration of third-party applications driving solutions

WHY OVS

- Applicable from “C-level” users to field personnel
- Supports rapid, customized implementations with minimal IT footprint
- Maximizes investment in existing tool sets and data sources
- Powerful in any data-rich industry
- Extremely broad application integration and flexibility
- No displacement of existing applications, databases, or infrastructure
- Mature, configuration-based software framework

OVS has been able to deliver where many others have failed: the ability to quickly link to ALL our data (Production, Financial, and Drilling) without changing our underlying data structures. Our ability to monitor costs and field activity has greatly improved.

Rusty Mondelli
VP Information Technology
Goodrich Petroleum Corporation
TECHNOLOGY

The One Virtual Source® framework architecture consists of three layers: virtual integration, workflow analytics and automation, and presentation. The virtual integration layer uses live data connections to link historians, ERPs, and other data sources together for interaction in the workflow automation and presentation layers. The workflow automation layer provides a complete design and run-time environment for the capture of analytics and workflow processes. Finally, the presentation layer displays the live output of the virtual integration and workflow layers in easy-to-use reports, charts, maps, and other visualization tools. This flexible architecture allows the OVS framework to be scaled to virtually any type of producing field and provides configurable solutions tuned to asset and user requirements.

One Virtual Source components reflect the distinctive features of the framework and identify areas of E&P integration through workflow automation, application integration, surveillance, and data integration. One Virtual Source impacts clients of all sizes, ranging from global super majors to independent resource holders alike. Built on the .NET 4.0 framework, the flexibility and connectivity of One Virtual Source ensure solutions configured to your business and engineering needs.
The OVS Wellbore Review Tool™ reduces well management cycle time with single-point access to a multitude of independent data sources. The tool supports rapid investigation of data within a few clicks - data discovery within seconds.

Automated and repeatable company-standard engineering workflows for well performance analysis, candidate selection, and planning make One Virtual Source the tool for well management.
Decline Curve Analysis

Decline Curve Analysis allows you to predict the future performance of your wells. One Virtual Source compares your production data to projections and automatically categorizes wells by the quality of their decline curve fit. The module constantly refines the current forecast using multiple techniques to save, delete, lock, and generate type curves. Seamlessly improve production forecasting with the Decline Curve Analysis module.

Uplift Analysis

The Uplift Analysis workflow evaluates the impact of well interventions on production. The workflow allows engineers to evaluate multiple events and the effects these may have had on the well production over time. Through the identification of KPIs, engineers can then pinpoint ways in which production can be increased. The uplift analysis can easily be integrated with financial data to provide an economic ranking of each well intervention.

Mapping

One Virtual Source provides a powerful mapping engine that allows you to visualize any data point. By default, OVS offers Base Maps, Bubble Maps, Contour Maps, Time-series animations, and geological interpretations. Additional presentations of map data can be configured.

Wellbore Schematic

One Virtual Source includes a wellbore schematic management viewing tool that allows you to import data from your current wellbore tool or create them directly within OVS. No matter how complex the well, OVS will have you up and running in no time at all.

Financial Analysis

Take advantage of the power of the One Virtual Source Integration Layer to view your data like you’ve never seen it before. Compare your latest financial data to your AFE’s or generate custom reports exploring any aspect of your financials.
BEYOND BUSINESS INTELLIGENCE

The volume of data being acquired on oil and gas assets is staggering. There are terabytes, sometimes petabytes, of data in databases or on file servers summarizing technical, operational, regulatory, mechanical, and process data. The One Virtual Source Surveillance-by-Exception Engine finds opportunities through its ability to detect events, trends, outliers, and other exceptions that indicate when things are not running as expected. Surveillance by Exception eliminates the need for manual analysis of each database or application result and reveals those items that suggest events requiring action, regardless of where that data originated.

Big Data, Big Workload

The sheer volume of data makes the management of assets a difficult task. To further complicate the effort, data diversity is also a challenge and surveillance must accommodate diverse databases or file servers where comparisons, calculations, and data combinations can be evaluated without manual intervention or investigation. Without sound and automated Surveillance by Exception methods to address rising amounts of data and databases, the end-user workload increases exponentially.

Detect, Diagnose, and Prioritize

Surveillance by Exception identifies where you need to focus your attention and helps to diagnose and prioritize problems. The OVS SBE module works automatically, continuously, and rigorously, 24 hours a day, 7 days a week. Whether monitored or unattended, Surveillance by Exception captures the events that CEO’s, engineers, geoscientists, or technicians need to evaluate to ensure that plan versus actual is in order.
Focus on What is Important

Surveillance by Exception provides your team with the information they need to know instead of an overwhelming list of data presentations, excel graphs, and tables. By setting up the KPI’s and rules that determine the results, Surveillance by Exception high-grades all of the information that is relevant to the goal. Surveillance by Exception sifts through all of the data and limits the presentation solely to the information required to improve performance.

gaps in efficiency. Once all of the relevant data is presented in a prioritized manner, opportunities present themselves intuitively. Resolving the events and issues highlighted with Surveillance by Exception is made even more efficient by the One Virtual Source platform itself. One Virtual Source enables complex workflows to be run supporting hypothetical scenarios, complex calculations, relevant data presentations, historical information, and much more.

Role-Based Information – Get What You Need to do Your Work

Your surveillance needs will vary based on your role within the organization. The CEO’s needs are very different from a field operator when it comes to surveillance. Whether you are focused on financial information, technical data, mechanical databases, operational schedules, land leasing programs, or drilling comps, Surveillance by Exception supports the specific KPI’s that you need to manage your tasks and goals based on your focus and role.

Maximize Communication and Task Management

Surveillance by Exception generates watchlists which presents you with daily issues or events that need to be resolved or managed. In some cases, the investigation or resolution may involve other team members. OVS Connect enables you to leverage local expertise in your immediate workgroup or in collateral groups with broader experience in other locations. Tasks can be assigned, scheduled and resolved using a system that facilitates open communication within or between departments and business units.
WORKFLOWS

With an exhaustive library of existing workflows and pre-configured data presentations based on years of best practices and business intelligence, OVS can pilot an asset optimization project in short order regardless of the asset type, the number of wells, or the type of databases in place. Since OVS does not replicate data into an OVS proprietary database, implementations do not require a database migration to get started.

Well Processes
- Well test Validation (PROSPER, Pipesim, Wellflo)
- Model fine-tuning. Ever-green Models (PROSPER, Pipesim, Wellflo)
- Quicklook Analysis (PROSPER, Pipesim)
- Stability Maps (Alhanati Calculation, Alhanati in PROSPER)
- General Nodal Analysis (PROSPER, Pipesim, Wellflo)
- VLP Generation (PROSPER/GAP)
- Hydraulic tables for Eclipse and Athos
- Multi-rate Performance curve generation (no models required)
- Optimization by Well (PROSPER, Pipesim, Wellflo)
- Virtual Metering
- Choke Performance Validation (PROSPER, Pipesim)
- DCA for Oil Wells

Network Processes
- GAP & Pipesim-Net
  - Network Adjust / fine-tuning (Automatic)
  - Network Adjust / fine-tuning (Manual)
  - Network Optimization
- Gas Balance
- Production Allocation

OVS Model Manager
- Vendor and version independent allowing clients to manage engineering models from the best of breed modeling packages of-their-choice through one single application.
- Provides an audit trail of changes and versioning control.
- A secure, easy and efficient way to manage the company’s official model from multiple engineering modeling packages.
- Full integration with OVS Workflows or any other external application.

ESP Surveillance
- Surveillance-by-Exception Panel Alarm with e-mail notification
- Model Validation (PROSPER, Pipesim)
- Pump Validation for optimum operation (inside the optimum envelope)

Water Flooding
- Pattern Balancing
- Chan Plot
- Decline Curve Analysis
- Voidage Replacement Ratio
- Sweep Efficacy
- Pattern Alarms displayed as map annotations
WORKFLOWS FOR ANY ASSET

Cyclic Steam Injection
- Optimization of daily operational changes/picks (to steam, to flowback, and to soak). Based on custom and configurable rules
- Operational changes/picks surveillance. Validate and alarm when recommended picks have not been applied
- Capability to handle dual completions
- Capability to handle Well Interference
- Header/wells surveillance

Gas Wells Surveillance
- Half slope performance chart
- Well Performance Analysis (WPA)
  - Critical gas rate
  - Cullender and Smith for BHP
  - Pump efficiency
- Decline Curve Analysis for Gas Wells including multi decline

Compressor Surveillance and Optimization
- Ariel Integration for model-based calculation of operating envelope
- Model-based calculation of operating point robustness
- Operational Alarms notifications and actions follow ups. Based on custom and configurable rules
- Alarms export to Powerpoint for Operations

Dashboards
- Multi-data source dashboards including:
  - Production
  - Financial
  - Well Review
  - Drilling
  - Lease Management

Flow Assurance
- OLGA Integration
- Prosper Integration

OVS Connect
Bring powerful collaboration tools to workflows.
- Create follow-up tasks associated with entities
- Follow entities of interest and receive email notification on another user's comment
- Display an activity stream of user comments
- Tag elements using natural language flow for classification of key conversation topics (i.e. downtime, workover, interpretation)