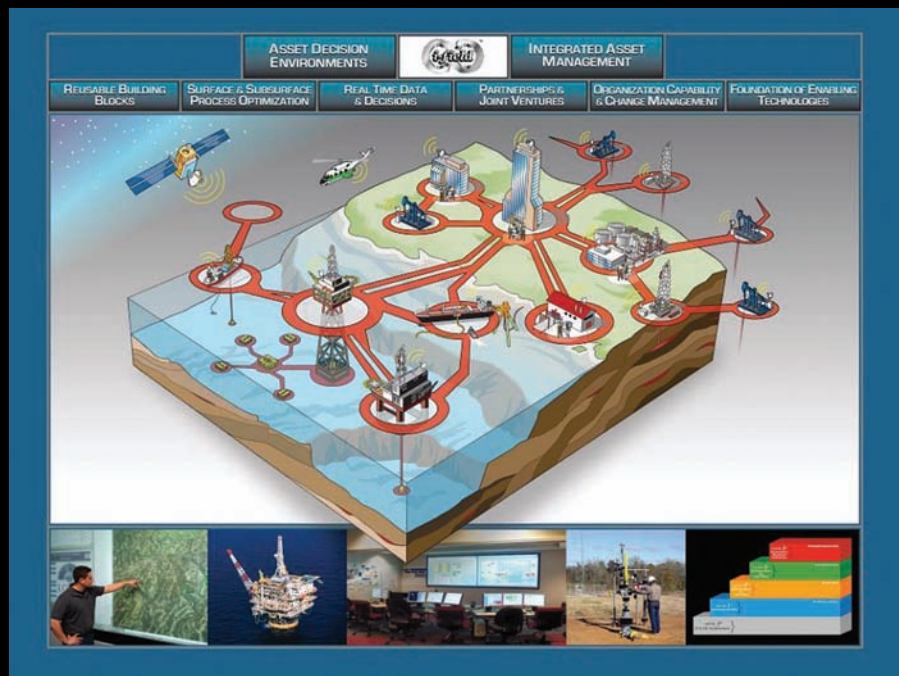


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TGS-NOPEC Launches First Secure Client Operations Portal

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TGS-NOPEC Geophysical Co. (TGS) has begun activating the first of a series of new secure Internet portals where clients will be able to easily access pertinent, proprietary information about their projects with the company, including data from completed geophysical surveys, the status of ongoing field work, documents pertaining to each project, and contact information for project team members.

In addition to improving client oversight by housing all of a client's project-critical information – previously scattered across TGS – at a central location, the so-called Client Operations Portal Site (CLOPS) also encourages closer contact and collaboration between TGS and its clients by serving as a virtual communications crossroad where members of project teams can post reports and announcements and exchange comments from anywhere in the world with Internet access.

Files too large to send via e-mail can be uploaded directly to the CLOPS. During the uploading process, metadata can be attached to categorize documents for organizational purposes. Previously, whenever a client requested large volumes of project information, the request typically had to be forwarded to TGS' information technology department, which would create an FTP account for uploading the files. Sometimes, requested data were loaded onto a CD or DVD and mailed to the client.

In addition to simplifying data exchanges, TGS also expects the CLOPS to eliminate the problem of e-messages and attachments.

CLOPS Background

CLOPS is an offshoot of an internal project called POPS initiated by TGS more than a year ago to improve the access of upper level managers and executives on three continents to current information about the status of active, non-exclusive geophysical surveys and other key company operating metrics.

“We have several offices around the world, and we wanted to create an Internet site where we could post

the status of all the surveys we're collecting and processing, as well as some operating data,” said David Hicks, chief technology officer, TGS. “We wanted for our senior management people to be able to see what was going on, as well as the people who contributed to those projects, and to be able to go in on a regular basis and update the status information.”



David Hicks, chief technology officer, TGS.

TGS unveiled the first-generation internal portal solution – an interactive project status system developed with the assistance of a technology consulting company on a Microsoft Office SharePoint Server 2007 platform – to key employees beginning in January 2007.

The Project Operations Portal System (POPS) quickly proved its ability to enhance productivity. It replaced a bulky hardcopy management report compiled each week for an operations group meeting to review the status of business activities. These activities ranged from survey acquisitions, data processing and geophysical data orders to projections of seismic vessel needs and computing capacity requirements (see Figure 1).

SharePoint's integrated suite of server capabilities helped TGS improve its organizational effectiveness by moving project-status data, operations management information, and supporting business documentation, previously compiled by individuals across the company, into a single, password-protected site on a company CPU. By improving data accessibility and security, POPS helped improve management's oversight of core operations, streamline day-to-day business processes and empower better decision-making.

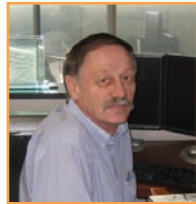
“Bringing a lot of information previously stored in a lot of different places together in a centralized location isn't a particularly new IT concept,” Hicks said. “But SharePoint is a major platform for Microsoft, and it has a

lot of functionality, so this just happens to be an example of how it can work out extremely well. At first glance, POPS looks like an Excel spreadsheet gone wild, but the design is very straightforward and it is extremely easy to use.”

TGS managers quickly discovered that the POPS format made it easier to get an overview of what was going on in the field, supported in great detail, without having to search through a mountain of paper or calling people to clarify a piece of information.

Evolution to a Paperless Environment

Before TGS began implementing POPS, it was the weekly task of Terry Hart, who at the time was manager of processing quality control, but today is general manager of area geophysics, to prepare the voluminous paper-based report for the weekly operations group meeting. Hart would gather operating data from certain TGS employees the afternoon before the meeting, make 20-25 copies of the assembled data, and compile



Terry Hart, general manager of area geophysics, TGS.

the final report so that it was awaiting members of the operations group when they arrived the following morning to review projects. But assembling the management report could become an unwieldy process, and the paper-based format of the report itself was sometimes a problem.

For example, if a material event occurred just before the operations group meeting, it could be difficult to get that information in time for the meeting. “Now, if something major happens just before we meet, the individual responsible for reporting that information can simply enter the updated information directly into POPS,” Hart said. “Even if they’re at a remote location, it only takes a few minutes to log in and make the changes. Many times, the updated information is available in nearly real time, which has helped improve the quality of the data available for the operations meeting.”

Despite Hart’s best efforts, group members frequently trashed the previous week’s report when they received the updated version. Sometimes a group member would lose his copy or might not have the latest numbers because he had missed an operations meeting and hadn’t received the most up-to-date version of the report.

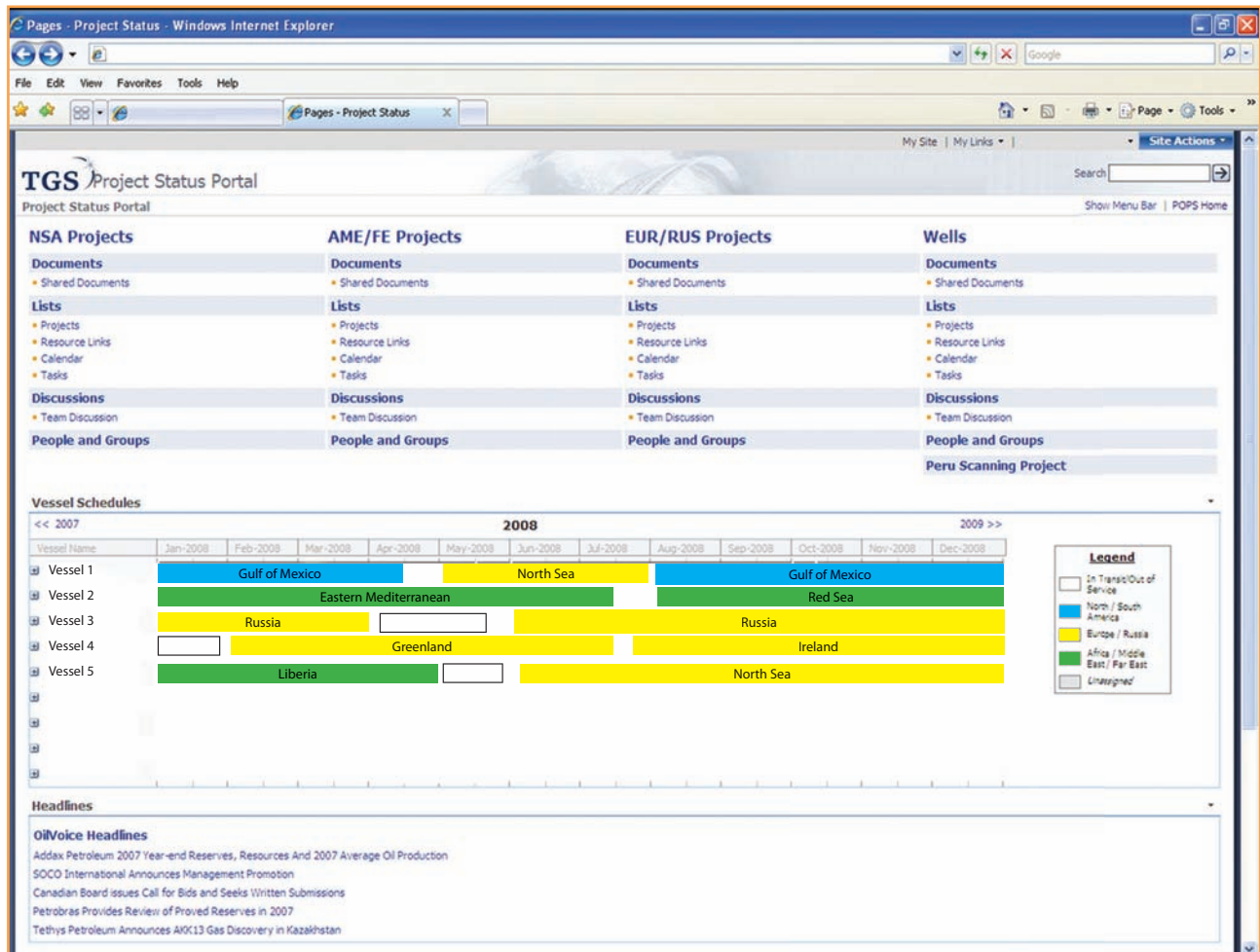


Figure 1. The Project Operations Portal System (POPS) replaced a hardcopy management report compiled weekly.

“Now, members of the operations group know exactly where to go get the information they need,” Hart said. “If someone is away from the office and wants to review the status of a project before a meeting, he can access POPS, quickly review the information he wants to see, and refresh his memory about where things stand.”

POPS Spreads Across TGS

Mike Ball, general manager of quality control services, TGS, said POPS helped improve the focus and effectiveness of the operations group meeting because POPS data are more succinct and to-the-point.

“The information available via POPS is more pertinent to everybody in the meeting, as opposed to a lot of the superfluous information we used to get,” Ball said. “In addition to helping operations group meetings become more productive, eliminating a lot of extraneous data has helped improve the focus of operations group members, so the meetings also became much shorter.”

Beyond streamlining preparations for the weekly operations group meeting and boosting the meeting’s

effectiveness, POPS enabled users to monitor important business information so they could plan their work flows better. Rather than e-mailing or faxing weekly paper updates to Hart, TGS employees could enter the information directly into POPS whenever a project’s status changed, so information posted on the site was always up to date.

When new data are entered into the system by an authorized user, POPS archives the old information, creating a permanent record of the history of each project or each key business metric. Rather than a snapshot of business information at a single moment in time, as was provided by the old paper reports, POPS created a dynamic, lasting record of material changes from project inception through conclusion.

TGS data management’s order entry and fulfill-



Mike Ball, general manager of quality control services, TGS.

The screenshot displays the TGS Client Project Portal interface. The main content area is titled 'Project Overview' and includes the following details:

- Project Name:** Mississippi Canyon 2D
- Project Leader:** John Smith
- Project Goals and Objectives:** Improve structural image using depth migration
- Project Start Date:** February 1, 2008
- Project Due Date:** March 31, 2008
- Country:** United States
- Location:** Gulf of Mexico
- Size:** 200 Sq Km

The **Project Status** table is as follows:

Last Updated	% Complete	Current Status	Comments
2/14/2008	10%	Image Update	We have begun the first image update.
2/27/2008	33%		We have completed the second image update.

The **Project Team** table lists the following members:

Last Name	First Name	Business Phone	E-mail Address
Williams	David	832.499.5555	david.williams@abcooil.com
Foster	Gary	832.499.5555	gary.foster@abcooil.com
Gonzalez	Lisa	832.499.5555	lisa.gonzalez@abcooil.com

The **Relevant Documents** section shows a list of documents under the category 'Meeting Notes (3)':

Type	Name	Modified
	Mississippi Canyon Status Report 2.14	2.14.2008 2:22 PM
	Mississippi Canyon Status Report 2.27	2.27.2008 3:31 PM
	Mississippi Canyon Status Report 3.1	3.1.2008 3:40 PM

Figure 2. A CLOPS client user will be able to access only information about his or her own company’s projects.

ment team began using POPS to track the processing and interpretation status of TGS geophysical surveys. “POPS helps us anticipate when we can expect to receive deliverables from our internal and external vendors,” Ball said. “That’s important, because once we get the deliverables, we have to store them in the database, archive them, and get the data ready for delivery to customers.”

The interactive project status portal was so well received that TGS soon decided to add financial information to the system, and soon after that the proprietary geophysical data of new acquisition Parallel Data Systems (PDS) was added. Now the well data division of TGS Geological Products and Services also has come on board.

“When we began to realize how much value POPS was creating for users internally, we began to consider creating a parallel site where clients could access some of the same project data and management information,” Hicks said. “We believed that developing a parallel capability to share business-critical information with selected customers and enabling them to track the status of their project could significantly strengthen important business relationships.”

POPS Spawns CLOPS for Clients

TGS Web administrator Inah Arthasarnprasit began working to create a client operations portal, parallel in architecture but separate from POPS, during the fourth quarter of 2007. Just before Christmas, TGS approached a client about trying out the beta site loaded with the company’s project data.

The feedback was immediate – and emphatically positive. “They liked what they saw and they were ready to use it,” Arthasarnprasit said.

Work began early this year on the first of many client operations portals TGS plans to create for its clients. Each client is to have a dedicated CLOPS. The first CLOPS is to go live any day now.

Both CLOPS and POPS use Microsoft SharePoint Server as a platform, in part because it simplifies internal and external collaboration for users, but also because it allows the ability to control access rights to information at a per-item level.

For optimal security, all client access to CLOPS is via a Virtual Private Network (VPN) using Secure Socket Layer (SSL) technology. TGS senior systems



Inah Arthasarnprasit,
Web administrator,
TGS.

administrator Mike Jeffers said the VPN uses the same SSL technology used by financial institutions for online transactions. All data sent from the client’s computer is encrypted before being sent to CLOPS, where it is then decrypted.

This encryption makes it impossible for would-be hackers to obtain any sensitive information. Because SSL is a native function of many Internet browsers, client users will not need to install special software on their computers to use CLOPS, nor do they need to take additional steps to perform this encryption. The security deployment is seamless to the client.

After logging in using a standard Internet browser, a user is taken to a landing page that has a link to CLOPS. Specific access rights are set up for each user, and when a user selects the CLOPS link, the SharePoint platform will determine the appropriate sites to which that user has access privileges assigned. A client user will be able to access only information about his or her company’s projects (see Figure 2).

In addition to allowing easy access to project data, the SharePoint platform has a subscription feature that allows a user to request notifications by e-mail whenever the status of a project changes, whenever a new document is posted to the site, or whenever communication is received from a team member.

Ball said he expects a lot of TGS clients to like the functionality of CLOPS as a means of exchanging PowerPoint presentations or data files. “POPS is a good conduit for transferring all kinds of information,” he said.

Perhaps most intriguing, the information sharing and interactivity enabled by CLOPS could help TGS clients improve their own productivity by managing project data better, increasing the frequency and quality of communication, and improving the efficiency of internal workflows.

“CLOPS will encourage TGS to develop a higher level of intimacy with our clients and to gain their trust by constantly re-proving the value of our data and quality of our services,” Hicks said. “In the same way that POPS has improved TGS’ productivity, CLOPS has the potential of improving the productivity of our clients. I tend to think of CLOPS as a portal to client loyalty.”



Mike Jeffers,
senior systems
administrator,
TGS.

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