

THE BENEFITS OF SAIC'S HM FRAMEWORK

Single Framework

SAIC's CoE offers a single, proven and industry-recognised architecture upon which all applications are delivered, providing reduced development and support costs.

Single Development Environment

SAIC's support team does not have to provide for multiple development environments and the SAIC HM Framework provides a more stable environment in which to operate systems as component re-use is maximised. Our whole approach is based on minimising background complexity to focus on the actual business needs of our customers in this critical area.

Stepped Approach to Replacing Legacy HM Systems

Green field sites can obviously take full advantage of the standard environment for data capture, business process and reporting from the outset, but the majority of customers will require a more gradual approach to change.

SAIC's solution makes it possible for our customers to break out of constant technology upgrade cycles. The SAIC HM Framework provides the facility to replace multiple systems with a single technology, minimising the impact of technical advancement. Delivery of the

framework via a managed service can also completely flatten the cost of ownership for an application suite, enabling the business to understand exactly what their costs will be for several years in advance.

Providing a stepped approach to the replacement of legacy systems via the SAIC HM Framework allows an organisation to take advantage of system standardisation without the associated risk of a large-scale change programme.

The SAIC HM Framework can be used to replace the top layer (data capture), providing a standard interface and access to multiple systems via a single thin client desktop application. This data capture upgrade is provided along with a data persistence model that replicates the source data back to the original systems. Critical business processes then continue to be performed by the stable legacy systems, with the result that the existing reporting mechanism produces the desired output.

Once the data capture layer has been standardised, work can begin on replicating legacy system result data back to the framework, so that a new, up-to-date reporting layer can be implemented. Finally, if required, the legacy business processes themselves can be replaced.

In a recent pilot, one operator identified 21 different "Business Pains" associated with their HM procedures. The SAIC HM Framework efficiently addressed every single one of these difficult areas.



ABOUT SAIC

From science to solutions™, SAIC engineers and scientists solve complex technical problems in national security, homeland security, energy, the environment, space, telecommunications, health care, and logistics. With annual revenues of \$7.2 billion (U.S.), SAIC is the largest employee-owned research and engineering company in the United States, with more than 42,000 employees at offices in more than 150 cities worldwide.

More information about SAIC can be found at <http://www.saic.com>

Further information relating to SAIC Europe can be found at <http://www.saic.com/europe/>

Details of the oil and gas capabilities of SAIC Europe can be found at <http://www.saic.com/europe/oil-gas/>

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CENTRE OF EXCELLENCE

INTRODUCTION

Effective hydrocarbon management (HM) is an issue affecting every organisation involved in exploration and production. The overall process for HM is complex: it deals with the recording, allocating and reporting of oil and gas production from the production wells through to the processing and separation plants; incorporating:

- Production Reporting (reporting the oil and gas produced at the wells)
- Field Hydrocarbon Accounting (allocation of the production for a field)
- Pipeline Hydrocarbon Accounting (accounting for the transportation through the pipelines)
- Terminal Hydrocarbon Accounting (allocation of the products after separation)
- Loss Management (flaring, shrinkage, etc.)
- Shipping Scheduling and Coordination
- Forecasting (long and short term)
- Gas Sales Management.

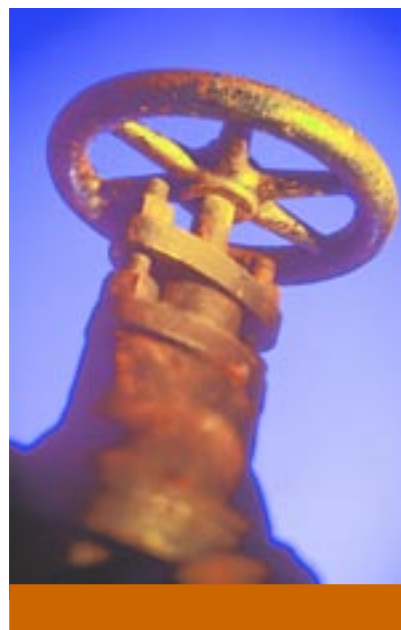
THE NEED FOR ACCURACY

In many cases, multiple companies own reservoirs, installations, pipelines and terminals, meaning that HM processes have increased criticality in allocating production value for each party. Billions of dollars of revenue each year depend on a company's HM applications. This is because HM processes are vital to ensure:

- Accurate allocation of products between operators and partners
- Appropriate government reporting (e.g. DTI, HM Customs and Excise)
- Compliant HSE and environmental reporting
- Essential national resource protection
- Optimum revenue and profitability.



HM Business Domain Expertise							
SAIC Global Coverage	Real-time Information Management	Field Production Reporting	Oil Pipeline Allocation	Oil Tanker Allocation	Gas Pipeline Allocation, Nomination & Sales	Oil & Gas Terminal Management	Client Value Delivery
	Business & Technical Consultancy Extensive Expertise Across the Delivery Chain						
	Program & Project Management £10k to £10m						
	Full Solution Delivery Framework & Bespoke Delivery, Integration & COTS Implementation						
	Full Support Services Not Just the Applications - the Business						
	Flexible Commercial Arrangements From Fixed Price to Outsourced Services						
	Proven Quality Management Systems CMM Level III Accreditation, ISO15504, ISO9000:2000						



CURRENT HYDROCARBON MANAGEMENT PROCESSES

SAIC's experience in this area has taught us that most operators are currently administering HM via applications developed in legacy technologies, requiring a high degree of maintenance.

Multiple systems, using disparate development environments and technologies, regularly need upgrading in line with technical advances. A reliance on legacy applications also inevitably leads to increasingly limited support availability. The result is a constant cycle of large system re-writes or upgrades, occurring every few years as technologically obsolete systems are brought up to date.

Undertaking a total replacement of an HM system, however, brings problems of its own. Completely re-writing an application's interfaces, processes and outputs opens the process up to serious risk. With so much profit and legislative compliance relying on it, the HM system cannot afford downtime.

SAIC'S HYDROCARBON MANAGEMENT CENTRE OF EXCELLENCE

To facilitate the delivery of an all-inclusive end-to-end service to our clients, SAIC has invested in the creation of a Hydrocarbon Management Centre of Excellence (CoE). The CoE provides an organisational structure combined with an up-to-date tool set, a process library and experienced resource pool to enable the smooth delivery of solutions within the energy market.

The CoE is structured in order to promote ongoing research and development and deliver a complete set of services to the market place, from consultancy to on-going support and managed/hosted processes. Key skills nurtured within the CoE consist of:

Consultancy

Involvement in the early stages of the field/pipe-line developments, allows us to add value to our customers' business through investigating and analysing requirements from the business perspective. Our domain and legislative experience in the HM field is second to none.

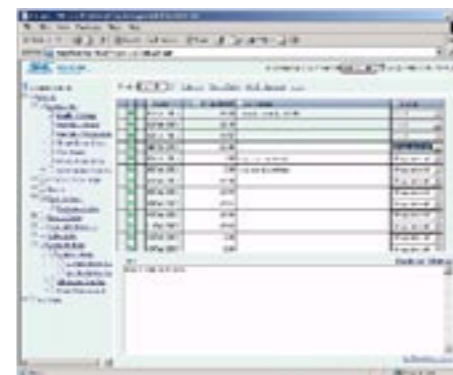
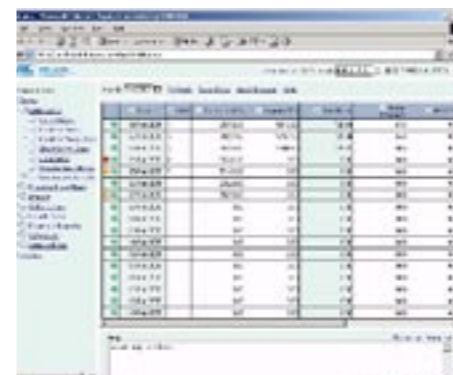
Development

Our highly-skilled development team maintains and continuously enhances the SAIC Hydrocarbon Management Framework in line with the demands of our customers through close liaison with our consultants.

Support

Integrating our support activities into the CoE allows us to offer a complete managed service, ensuring total continuity between development and support, ease of upgrade and genuine control for the customer, all based on agreed levels of service.

The development environment within the CoE has been constructed to provide a standard set of tools for each member of our development and support teams. The standardised, and therefore familiar, environment enables staff to quickly initiate new projects as well as move between existing projects with no impact on time or increase in effort.



THE HYDROCARBON MANAGEMENT FRAMEWORK

SAIC's HM Framework has been under development within SAIC's HM CoE since the beginning of 2004. The vision has been to create a stable, scalable, configurable framework enabling SAIC to deliver solutions tackling the issues traditionally associated with the hydrocarbon accounting and production reporting business areas.

The concepts behind the development of the SAIC HM Framework are based on over 10 years' experience in managing the ongoing evolution of hydrocarbon accounting and production reporting systems. Basing the delivery of all future solutions on the evolution and configuration of the SAIC HM Framework enables the CoE to deliver high quality "tried and tested" components while minimising development and support costs and mitigating project risks.

The staff within the CoE appreciate that technology does not in itself provide solutions to our clients' business problems. It is the creative implementation and integration of proven technologies that deliver winning solutions.

The SAIC HM Framework has been designed and built on mature, stable and scalable technologies, ensuring first and foremost that the basic expectations of any business critical solution can be achieved. SAIC's progressive approach to integrating these technologies, and the imaginative design and development that has been applied to them, has delivered a framework that can ensure a successful delivery.

HM FRAMEWORK SUMMARY

- Innovative use of tried and tested technology minimising cost and mitigating risk
- Multiple data source access through a single interface
- Thin client front-end based on HTML and JavaScript
- Expanding library of templates configured to deliver data entry and data visualisation enabling the rapid deployment of new solutions as the library matures
- User definable check rules delivering fully configurable and automated validation into the hands of the users
- Centralised error handler
- Configurable status codes
- Interactive business process flow maps allowing workflow based navigation through any solution based on the processes familiar to the user
- Server-side calculation engine providing rapid and secure execution of calculations
- Calculation logic placed back in the hands of the users with the ability to update and configure calculations without software vendor involvement
- Microsoft Excel calculation templates and audit log files providing a familiar medium for designing, developing, maintaining and validating calculations
- A normalised relational database allowing ad-hoc reporting through a multitude of COTS solutions (e.g. Business Objects)
- Process automation via an integrated hierarchical scheduler implementing CRON syntax.