



SPE 124347

WITSML “Comes of Age” for the Global Drilling & Completions Industry

J.G. Pickering, SPE, BP; J. Kreijger, SPE, Shell; L.O. Grøvik, SPE, Statoil Hydro; D. Franssens, SPE, IDS; N.R. Deeks, Schlumberger; and A. Doniger, SPE, and J. Schey, SPE, Energistics

Copyright 2009, Society of Petroleum Engineers

This paper was prepared for presentation at the 2009 SPE Annual Technical Conference and Exhibition held in New Orleans, Louisiana, USA, 4–7 October 2009.

This paper was selected for presentation by an SPE program committee following review of information contained in an abstract submitted by the author(s). Contents of the paper have not been reviewed by the Society of Petroleum Engineers and are subject to correction by the author(s). The material does not necessarily reflect any position of the Society of Petroleum Engineers, its officers, or members. Electronic reproduction, distribution, or storage of any part of this paper without the written consent of the Society of Petroleum Engineers is prohibited. Permission to reproduce in print is restricted to an abstract of not more than 300 words; illustrations may not be copied. The abstract must contain conspicuous acknowledgment of SPE copyright.

Abstract

The development of WITSML started in 2000 with the objective of building an XML standard for the transmission of wellsite data in a consistent form that would enable the integration of information from different suppliers. Energistics (formerly POSC) was involved from the outset and has provided independent hosting of the standard since early 2003. BP and Statoil were early sponsors and a Special Interest Group was formed. This has evolved steadily and today it includes representatives from all major energy and service companies.

Most energy companies have now either implemented WITSML technology for real-time and historical wellsite data transmission or are planning to do so in the near future. The number of WITSML compliant products is growing rapidly in response to this demand and increasingly WITSML is being specified as a contractual requirement, particularly at green field sites. The industry is approaching a position where the non-use of WITSML will be by exception.

This paper has two main areas of focus. The first is the technical delivery of the new version 1.4.0 WITSML release and the second is the business justification for the continued energy company uptake which is based on successful use cases. The paper is co-authored by members of the WITSML SIG and therefore contains detailed information from end users and suppliers with considerable working experience.

More than ever there are now compelling reasons to deploy WITSML. It is an enabler for data integration and smart tools and is the underlying technology behind many drilling collaboration centres. It is helping drilling operations globally to benefit from better access to engineering expertise at a time when the number of experts is declining and the complexity of operations is increasing.

Introduction

This paper describes the evolution of WITSML (Wellsite Information Transfer Standard Markup Language), from its origins in 2000 (Holt et al, SPE 74480, Kirkman et al, SPE 84066) to the latest release that will provide the underlying real-time data communications definition for many drilling and completions operations on a global basis. It addresses the key challenges to adoption by suppliers and end users and reviews the essential elements that must come together to deliver a convincing business case for adoption.

The drilling and completions industry faces many challenges in today’s operating climate. It is focussed on cost reduction, developing more challenging wells in increasingly difficult environments and coping with the loss of expertise through the progressive retirement of an ageing workforce. Most operators recognise that “business as usual” is not an acceptable strategy and are exploring new technologies such as remote collaboration centres (Wahlen et al, SPE 78336; Sawaryn et al, SPE 99069; Edwards et al, SPE 100113), real-time data feeds coupled to intelligent tools (Pickering et al, SPE 110388, Lauche et al, SPE 99774) and more sophisticated interpretation of downhole information. For this technology to be deployed at scale and in an economic manner the implementation of an open standard is essential. This explains why there has been increasing momentum in the development and deployment of WITSML in the last 1-2 years.

WITSML is an open standard managed by Energistics but owned by the WITSML Special Interest Group (SIG). Membership of the SIG is open to suppliers and end users of WITSML compliant products and currently in excess of 50 companies are