

Client	Oil and Gas
Profile	Client is the national oil company (NOC) of Norway. Because they are exploring and producing in typically hostile offshore environments, they are often at the forefront of new technologies, including software, to improve safety and productivity and reduce risk.
Challenge	Together with the major oil service companies and other production companies, form a consortium and cooperatively develop a standard of communication of well data (WITSML) and build common software to implement this protocol. Then, using this protocol software, develop competitive products to provide real time coordination of drilling operations with earth modeling, bit steering, environmental hazard mitigation, etc.
Solution (What Bluware Did)	<p>First, it was necessary to develop a consortium of companies that typically compete with one another, convincing all that a standard will still allow each company to compete and to control its own proprietary algorithms and methods. The Well-site Information Transfer Standard Markup Language (WITSML) committee was formed from this consortium (<a href="http://www.witsml.org">http://www.witsml.org</a>).</p> <p>Second a competitive product was envisioned and funded that would gather key well parameters during drilling and upload that into Landmark Graphics' OpenWorks database. Any application utilizing OpenWorks could then work with real time data after minor upgrades to handle dynamic updates.</p> <p>This product, called OpenWire, transferred XML data from a service company server via SOAP, decode it, and update appropriate OpenWorks tables.</p> <p>A team was created to build the software product, from envisioning to deployment, working with the customer (Client engineers) to quickly provide the first to market WITSML application.</p>
Benefits	<p>Create an open standard for communication between all service companies (data vendors) and production companies for data acquisition and real time control of drilling operations.</p> <p>Greatly reduce the risk of well blowouts, broken drill bits, and missed targets by real time steering and dashboard control of critical drilling parameters.</p> <p>For the first time, allow onshore exploration and drilling engineers to work directly with drilling operations on the rig to correlate the earth model of the field with actual drilling, allowing pinpoint steering and management of critical parameters.</p> <p>The resulting benefit from all the above points is significant cost reduction.</p> <p>Being first to market, OpenWire allowed Client to begin the process of modifying their drilling operations to include onshore consultants to assist drillers with technical assistance.</p>
Consultants	The team included a project manager, a systems architect, and two software developers. Outside resources were employed for testing, documentation, configuration management and deployment.
Type	Web-based application employing SOA architecture from oil service companies, with a database backend.
Project Length	Two and a half years. This included representing Client on the WITSML standards committee, and three major product releases.
Tools/Technologies Utilized	Linux, Windows (2000 and XP), Java, JAXP, Swing, XML, SOAP, WSDL, Apache Tomcat, Ant, Oracle (7&8), Bugzilla, MS Project, UML, design patterns, agile development methodology