# Dow Chemical awards contract extension to Semantic Designs for Process Control Software Reengineering

*Continued enhancements to Semantic Designed automated migration tools used by The Dow Chemical Company to execute its migrations from proprietary MOD5 control systems for chemical manufacturing plants to standard industry controllers.*

(PRWEB) May 16, 2017 -- Semantic Designs (SD) of Austin TX has been awarded a contract extension byThe Dow Chemical Company (NYSE:DOW) to provide continuing support and enhancements to SD's custom, automated migration tool. This tool is used by The Dow Chemical Company to execute its migration from proprietary MOD5 control systems for chemical manufacturing plants to standard industrial controllers, minimizing plant downtime and risk.

In 2012, Semantic Designs (SD) was contracted by Dow to build a custom tool, dubbed "Sequoia", to automate much of the conversion of production chemical plant process control applications in Dow's world-wide facilities from the MOD5's programming language Dowtran to modern industrial control languages. Dow, having used a first version of Sequoia successfully in several pilot migrations to produce new code for running plants, has issued a new contract to SD to improve Sequoia, enhancing quality and level of automation, further shortening plant conversion times.

In 2016, a second version of Sequoia was released with additional techniques in concept recognition, analysis, and translation.

Sequoia is built on a foundation provided by Semantic Designs' industry-leading DMS® Software Reengineering Toolkit™, an engine for building customizable tools for analyzing and transforming the source code of large, complex software systems. Dr. Ira Baxter, CEO/CTO of SD said, "We are extremely proud of how effective DMS's data flow pattern matching capabilities are in abstracting process control actions and concepts from low-level code found in legacy controllers. Combined with DMS' ability to extract and simplify complex Boolean expressions, DMS/Sequoia is able to discover models of the process control actions and the state/conditions under which they occur, providing Dow precise models of the legacy controller code. We believe this type of technology is the key to a bright future for reverse engineering tools for many types of software."
DMS is unique in the software industry in its ability to process a wide variety of modern and legacy computer languages with the same or better precision as the compiler and development tools for those languages, including Java 8, COBOL, C++17, SQL, HTML, and many others. Unlike standard development tools, DMS can absorb an entire software system of millions of lines to collect facts only available by system-wide analysis. That knowledge is then used to achieve desired customer effects, especially massive automated change, driven by pattern-directed matching and code transformation rules. Dr. Baxter noted that DMS's success comes from its generality, compared to the typical limitations of point-solution tools.

Semantic Designs has been applying DMS to a wide variety of complex software engineering tasks, including analysis of large core-banking software systems for Australia-New Zealand bank, discovering relationships in the enormous mainframe software systems of the U.S. Social Security Administration to enable impact analysis, and migrating sophisticated embedded systems such as the B-2 Stealth Bomber mission software for Northrop Grumman and the U.S. Air Force. Other customers include Boeing, J.P. Morgan, Cisco Systems, Raytheon and Rockwell Collins. SD also has done software engineering research contracts with the U.S.

Department of Energy.
DMS is a registered trademark of Semantic Designs. "Software Reengineering Toolkit" is a trademark of Semantic Designs.

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