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For Immediate Release

TopQuadrant Helps NASA Launch the Constellation Program

Semantic Technology Proves Essential to Achieve Exploration Program Goals for the U.S. Return to the Moon and Mission to Mars

ALEXANDRIA, Va. and MOUNTAIN VIEW, Calif. – June 2, 2009 - TopQuadrant™, a leading Semantic technology products company, today announced that NASA is using the TopBraid Suite 3.0 Semantic application platform to model, organize, integrate and exchange data within and across the NASA Constellation Program. NASA's use of TopBraid Suite represents a significant commitment to developing and applying a Semantic data architecture in the full 'engineering-through-operations' lifecycle as a means of achieving the Constellation Program's ambitious planetary exploration goals under NASA's affordability, sustainability and evolveability mandates.

In addition to the challenging technical and schedule objectives for planetary exploration, NASA has specific mandates for the Constellation Program, including significantly decreasing operational costs and shortening development cycles, while increasing the overall safety of the spacecraft. For past space programs, NASA relied on traditional technologies, such as relational databases to store the design and operational information for launch vehicles, spacecraft and missions. But new program objectives require the flexibility, ease of data integration and organic application capabilities unique to Semantic technologies, which enable rapid changes in large, complex and distributed data systems.

The Constellation Program is leveraging Semantic technology as a means of integrating and managing information generated and shared by diverse groups across the program, including engineers, technicians, operators and managers. Semantic Technologies are a key technology that the Constellation Program is utilizing as part of a set of best practices extending the proven technology of relational databases, service-oriented architectures and web delivery systems. TopBraid is enabling NASA to fulfill its exploration program goals by efficiently managing and executing planned and unplanned information changes within a multitude of systems over the duration of the Program, which is expected to continue for 30-40 years.

NASA uses TopBraid to develop and manage NEXIOM the *NASA Exploration Initiatives Ontology Models*. NEXIOM formalizes the way machines and people specify NASA Exploration systems, elements of their Scientific and Engineering disciplines, related work activities, and their interrelationships in the Enterprise. Through the use of model-based knowledge representations and controlled vocabularies information is intelligible and actionable to machines, applications, and people. Information can be reliably found, associated, aggregated, and reasoned over to generate products and inform decisions within and across diverse organizational groups and application domains.

"Since 2002 TopQuadrant has been working with NASA on ontologies for aerospace engineering," said Ralph Hodgson, CTO, TopQuadrant "The Semantic data architecture that we're building for the Constellation Program addresses the full design, manufacturing and operating lifecycle of the program. Few enterprises have the scale requirements of the Constellation Program due to its lifecycle extent. What is common for all enterprises is that



Semantic technologies improve data quality, facilitate information flow, address legacy application problems and extend the longevity of data, for distributed teams and applications.”

About The Constellation Program

In 2004 a new vision for the Nation’s space exploration program was announced. With NASA’s Constellation Program the United States has committed to a long-term human and robotic program to explore the solar system, starting with a return to the Moon that will ultimately enable future exploration of Mars and other destinations. The Constellation Program is developing the spacecraft and systems, including the Ares I and Ares V rockets, the Orion crew exploration vehicle and the Altair lunar lander that will take astronauts to the International Space Station after the retirement of the space shuttle, and eventually return humans to the moon.

About TopBraid Suite

TopBraid Suite™ supports the complete semantic application development lifecycle. Users can rapidly assemble, deploy and manage dynamic ontology-driven applications built with the W3C SemanticWeb standards, including RDF/S, OWL and SPARQL. The suite includes TopBraid Composer, a Semantic Web modeling and application development environment; TopBraid Composer Maestro Edition™, an extended version of Composer with additional capabilities such as SPARQLMotion for editing and executing visual data processing scripts; TopBraid Live™, an enterprise Semantic Web application platform; and TopBraid Ensemble™, a Semantic Web application assembly toolkit.

About TopQuadrant

TopQuadrant is the global leader in Semantic Web application development technology, solution services and training programs. Established in 2001 with the mission to enable enterprises to be agile through practical application of Semantic Web technologies, TopQuadrant offers TopBraid Suite, the only Semantic Web platform with a graphical application assembly toolkit and end-user customizable tools to discover, explore and visualize relevant data without programming. TopQuadrant’s Semantic Web applications enable enterprises to master the challenges of the global marketplace by becoming more agile, reducing costs and creating competitive business processes that easily adapt to change. The company’s customers include Fortune 1000 corporations in retail, pharmaceutical, financial services, medical/healthcare, manufacturing, and energy industries as well as government agencies in the areas of defense, intelligence and airspace. For more information, visit www.topquadrant.com.

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