Software Tools Streamline Project Management

Originating Technology/NASA Contribution

Three innovative software inventions from Ames Research Center (NETMARK, Program Management Tool, and Query-Based Document Management) are finding their way into NASA missions as well as industry applications.

The first, NETMARK, is a program that enables integrated searching of data stored in a variety of databases and documents, meaning that users no longer have to look in several places for related information. NETMARK allows users to search and query information across all of these sources in one step. This cross-cutting capability in information analysis has exponentially reduced the amount of time needed to mine data from days or weeks to mere seconds.

NETMARK has been used widely throughout NASA, enabling this automatic integration of information across many documents and databases. NASA projects that use NETMARK include the internal reporting system and project performance dashboard, Erasmus, NASA's enterprise management tool, which enhances organizational collaboration and information sharing through document routing and review; the Integrated Financial Management Program; International Space Station Knowledge Management; Mishap and Anomaly Information Reporting System; and management of the Mars Exploration Rovers.

Approximately $1 billion worth of NASA's projects are currently managed using Program Management Tool (PMT), which is based on NETMARK. PMT is a comprehensive, Web-enabled application tool used to assist program and project managers within NASA enterprises in monitoring, disseminating, and tracking the progress of program and project milestones and other relevant resources. The PMT consists of an integrated knowledge repository built upon advanced enterprise-wide database integration techniques and the latest Web-enabled technologies. The current system is in a

PanOptica software incorporates three NASA-developed programs.

pilot operational mode allowing users to automatically manage, track, define, update, and view customizable milestone objectives and goals.

The third software invention, Query-Based Document Management (QBDM) is a tool that enables content or context searches, either simple or hierarchical, across a variety of databases. The system enables users to specify notification subscriptions where they associate "contexts of interest" and "events of interest" to one or more documents or collection(s) of documents. Based on these subscriptions, users receive notification when the events of interest occur within the contexts of interest for associated document or collection(s) of documents. Users can also associate at least one notification time as part of the notification subscription, with at least one option for the time period of notifications.

Partnership

The three software tools have been bundled together for the purpose of executing a nonexclusive patent license, and in June 2006, JumpStart Solutions LLC (JSS), of Cave Creek, Arizona, licensed NETMARK, PMT, and QBDM for use in its PanOptica product suite.
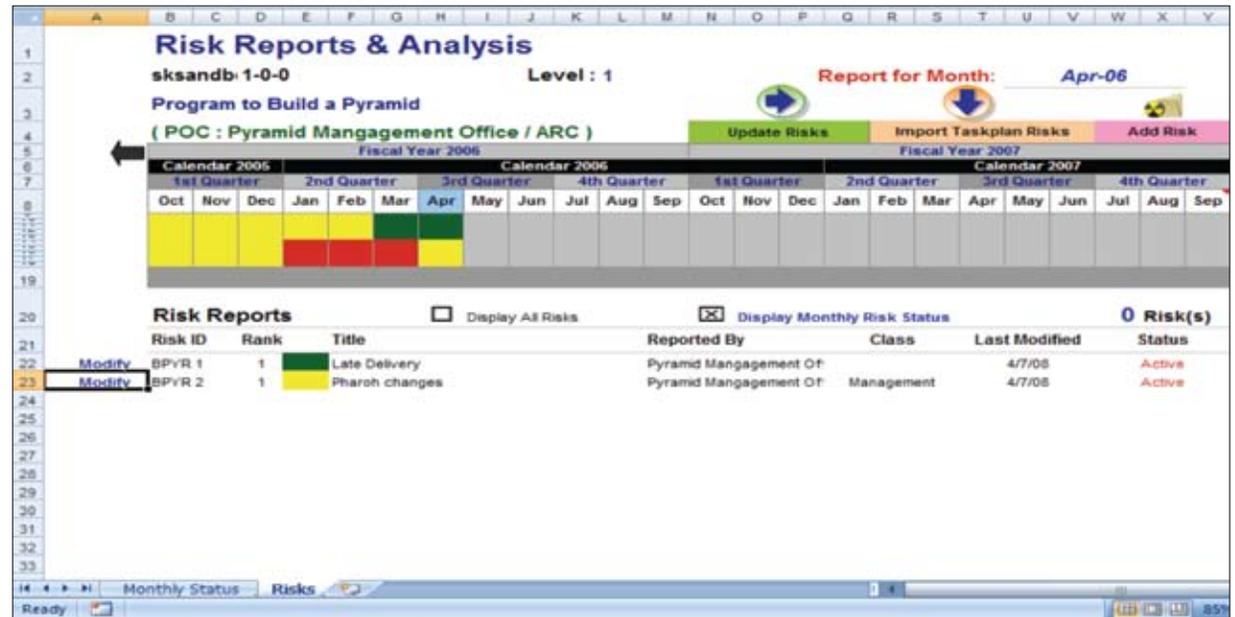
This license also allows JSS to re-license the three programs individually to targeted commercial companies, venture capital firms, and other government agencies.

Product Outcome

In September 2006, JSS announced the availability of PanOptica, its new suite of business intelligence and knowledge management tools. PanOptica was built using NETMARK, PMT, and QBDM and offers customers a cost-effective, scalable, easy-to-use suite of tools to manage projects, portfolios, and knowledge bases and documents.

 The PanOptica product suite can be understood as a set of collaboration tools, enabling implementers and managers across functionalities, responsibilities, and geographies to communicate with each other, share knowledge, and update their decision-making to evolve action to fit strategic objectives in a changing environment.

PanOptica applies the technologies to enable customer project, portfolio, and program managers to integrate the information from their project plans—work breakdown structures, milestones, budgets—with their financial, operating, and other systems—and to create reports that are useful and intelligible to their varied constituents. In other words, anyone, from principal investigators to senior management, to multiple funding sources and partnering organizations, can know "how are we doing?" on each of the project elements and how they roll up to larger views (portfolios and programs). Earned Value Management tools are applied. PanOptica is particularly useful in complex organizations, where different constituents, such as multiple funding sources for actual work, have

PanOptica is a comprehensive, Web-enabled tool set, which provides intuitive and enhanced Web interfaces to automate the tedious process of monitoring, disseminating and tracking the progress of individual projects and project portfolios.

their own objectives, and, consequently, have different perspectives on the work being done.

One of the goals of PanOptica is simplicity of use. This starts with assisting the customer to enable data to be entered only once, rather than the multiple iterations often required for different uses. It continues with intuitive Web-based interfaces, using widely understood Microsoft Office applications for reports. It enables straightforward approvals by authorized users of actions, such as releasing funds, to follow and, then, seamlessly, provides information to update the various systems.

This product suite provides users a comprehensive set of Web-based tools for project and portfolio management. JSS also plans to integrate other technologies with NETMARK/PMT/QBDM to provide project portfolio management and knowledge document management capabilities for its industry, university, and other customers.

Many companies are reluctant to license technology from the U.S. Government. The primary reason is the length of time required to investigate the technologies, determine the technical applications, negotiate the license agreement, and learn the government licensing process. It is JSS's secondary strategy to shorten the licensing process time and become a clearing house for technologies that it has licensed from Federal agencies and universities that have commercial viability. JSS will prepare the licensed technologies for re-licensing, and re-license them to the private sector or other government entities. ❖

PanOptica® is a registered trademark of JumpStart Solutions LLC.