Code Countdown, *NASA's Kennedy Space Center Selects Razor For New Shuttle Launch Processing System.*

by Deborah Schwartz

When NASA's Kennedy Space Center decided to upgrade their Launch Process System (LPS), which is the software that is responsible for everything related to the shuttle from the time it touches ground on a landing until the moment it takes off for space again, it had a huge project ahead.

The rewrite of LPS, which was originally developed in the early 1970s, would translate into the creation of hundreds of programs, thousands of files and millions of lines of code. NASA, therefore, needed a mechanism to keep the project manageable. Enter Tower Concepts Inc. (New Hartford, N.Y.) with Razor, a Configuration Management (CM) system, to help with the upgrade from the LPS to the new system called the Checkout and Launch Control System (CLCS).

Started in late 1996, the project runs through Fall 2002, with releases scheduled at six month intervals. Over 200 engineers will be involved, including contract help from Lockheed Martin, INET and the United Space Alliance. The CLCS is being developed on a mix of UNIX platforms (including SGI, Sun, HP and Digital machines) as well as PCs running Windows 95 and Windows NT. Engineering will be using object-oriented techniques, C, C++ and Java.

The final system will monitor the Shuttle and its ground equipment, including all environmental controls and equipment that load the propellants. Consoles will communicate information to and from hardware connected to the numerous ground support systems. Overall, some 40,000 temperatures, pressures, flow rates, liquid levels, turbine speeds, voltages, currents, valves and switch positions are monitored.

Al Menendez, president of Space Coast Information Systems (Melbourne, Fla.), was the consulting engineer involved in NASA's decision to use Razor. Menendez found that while other CM products had a substantial learning curve, "Razor offers a fresh alternative with a simple and intuitive GUI, a command line interface, integrated change tracking system, integrated e-mail, customizable forms, a promotion scheme and a Web interface, at a very fair price. It was an easy decision."

201 Spring Street • Lexington, MA 02421
(800) 6VISIBLE • Fa x (781) 778-0208
Email: sales@visible.com • www.visible.com

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CM tools assist software developers in keeping track of the many different versions and sub-units of their code. Problem Tracking (PT) tools, meanwhile, help developers manage information about bugs, product problems and possible future enhancements to the product. Razor provides CM and PT solutions in an integrated package. The issues program could be considered the heart of the Razor package. It's a configurable problem tracking system, wherein locally defined problem forms present themselves on screen as X windows, using text fields, text windows and check boxes for whatever information is important to your work.
Through the versions program, Razor provides a window interface to all of the standard version control needs such as checking files in or out for edit, parallel development, reporting changes, viewing differences and browsing. The final product is actually the culmination and integration of innumerable changes spread across a wide number of files.

Visible Systems can be reached at 201 String Street, Lexington, MA 02421; (781) 890-2273; www.visible.com; or by email at; sales@visible.com.

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