Networking: Capturing baby boomers' knowledge

December 12 2005

A third of the aging baby-boom generation employees of Bruce Power, Canada's private nuclear power producer, are poised to retire in the coming years, taking decades of insights into complex nuclear reactor systems and steam generators with them.

Like many other employers of sophisticated technical talent, the energy company is hoping to retain some of those insider perceptions through so-called knowledge networks, software and hardware solutions to capture, and keep, the vital information, experts tell United Press International's Networking.

"Knowledge capture is becoming an important issue with the impending retirement of millions of baby boomers," said a spokesman for KANA Software Inc., based in Menlo Park, Calif., a maker of software to capture knowledge from workers. "According to one stat, beginning on Jan. 1, 2006, a boomer will hit the age 60 every seven seconds for the following 19 years."

Companies in the defense and aerospace industries -- like Boeing -- and major universities, including MIT, Stanford and Oxford, are also employing knowledge-management software, Jim Cooper, chief executive officer of Maplesoft, the Waterloo, Canada-based software developer, told Networking.

One of the techniques that the software developers use to capture knowledge is the development of so-called intelligent technology

platforms, which allow senior experts to share their thinking about crucial business operations and processes with younger employees over computer networks.

That enables the next-generation workforce to retain much of the hard-won knowledge of their predecessors.

One developer, IBM, has developed so-called knowledge dashboards, which are accessible in real time over networks by new employees. Working with the Michigan Electric Transmission Company LLC, based in Caledonia, Mich., IBM is deploying a Web-based knowledge-management application that allows for open data exchange across the enterprise. The knowledge helps optimize operations and maintenance and enables the utility to respond more quickly to power outages along its 5,400 miles of transmission lines and 80 substations and other facilities.

The software network also serves as a data historian for the utility, maintaining information about how substations on its power generation network operate, something that only an engineer with decades of experience, working with the very equipment, would have had previously. There are also video archives and a human machine interface in the project, as the company develops an "intelligent network" that "will facilitate the company's ability to enhance system reliability, meet changing customer requirements and advance in an on-demand world," said Guido Bartels, general manager of IBM's global energy and utilities unit.

Other firms in heavy industries, like automotive or consumer products, like Honda, Procter & Gamble, 3M, New Balance, and even GE, are adopting software that helps support the management of a portfolio of products, processes and services from initial concept through design, launch, production and final usage.

The network-based system "maintains a vault, which may be physically distributed but has a single, logical index to all the documents containing product, project and process information," said a spokesman for MatrixOne, a developer of knowledge capture technology, based in Westford, Mass. The software uses "workflow and authorization rules to give orderly access to information -- for stakeholders, such as designers and engineers," said the spokesman. "The various processes of new product introduction, production, service and retirement use a single source of product information."

The company recently received a patent from the U.S. Patent and Trademark Office.

The patent defines a comprehensive software application that provides a secure, high-performance distributed library for cataloging, distributing, tracking, reporting and managing IP. This enables effective design reuse and the use of commercial components to meet the needs of increasing design complexity and faster time-to-market in advanced semiconductor design.

"This comprehensive patent demonstrates our commitment to helping create the innovations that can solve the increasingly complex product development problems faced by the global electronics industry," said John Fleming, senior vice president and general manager of MatrixOne's electronic business unit.

Knowledge management has been talked about in industry for about a decade, but with the en masse retirements of baby boomers forthcoming, it is now taking off.

Lawyers and law officers are embracing the technology. Two years ago, LexisNexis, the software developer, released a new Web-browser based knowledge-management application, and recently released version 3.2 of

the software, Bob Sadowski, a spokesman for LexisNexis, told Networking.

"This allows users to search the lexis.com service and a law firm's internal work product simultaneously, fully utilizing the intellectual property and collective expertise already residing within a firm," said Sadowski.