A research and analytics group within one of the largest banks in the United States uses the IMSL C Library (CNL) to perform sophisticated mathematical and statistical modeling for its investment banking division. CNL provides the bank with fast, stable code with a comprehensive selection of algorithms.

I THE PROBLEM I

Banking spans a wide variety of responsibilities and services. One group may be involved in Checking and Savings along with Asset Management, while another is focusing on Capital Markets or Debt Issuance. One of the largest banks in the U.S. has been using the IMSL C Library (CNL) from Visual Numerics for over 8 years to build complex models. The research and analytics group using IMSL is responsible for quantitative analysis for the investment banking division. This group, one of the largest of its kind within the organization, focuses on building sophisticated mathematical and statistical models for the analysis of interest rates, risk management, trading and optimization problems, and is involved in solving many challenging quantitative problems across the division.

I THE SOLUTION I

Although the bank has used the IMSL Libraries for many years, quantitative models are evolving and becoming more complex. Like many banks of this type, researchers have to build onto existing models to remain competitive and build new ones to keep up with the demands made by their analysts. For this large bank, CNL is an integral part of the evolution of its code and is now extremely integrated into their work. CNL has served the bank well by being able to grow with the complex needs of the banks analysts.
This research and analytics group within the bank builds its own code as well as using the IMSL Libraries. However, over the years, the developers have discovered that it is much more advantageous to use the existing IMSL C Library so that the programmers can work on the mathematical or statistical problems at hand rather than spend time building new and maintaining existing code to meet the ever-changing needs of the bank’s analysts.

When absolutely necessary, this group builds its own code but the developers have found that it is much faster and easier to use IMSL. It is very reliable, fully tested and maintained and has found great stability over the past 30 years.

“We have never run into a single bug using IMSL,” said a bank Principal. “Long ago we built an optimization routine that we replaced with one from IMSL. Now it runs faster and to completion everytime. This reliability is why our researchers and analysts have come to trust IMSL in their work.”

Currently, the IMSL Libraries are a core component to at least four trading systems in the bank. Most numbers computed by these systems goes through the C++ computational engine and hence, often contain IMSL calls.

I RETURN ON INVESTMENT I

A Principal at the bank describes the benefits of using CNL in their work by saying, “The Licensing fee covers two man months of time per year. It would cost me a lot more to hire the people I would need to build the code and that doesn’t even touch on the cost to maintain that code. Using the IMSL Libraries saves our bank a huge amount of time and money.”

Moving forward, this research and analytics group would like to share the IMSL Libraries across other business units within the bank such as risk control, equities, mortgages, commodities, and emerging markets. They believe that doing so will increase productivity by enabling other areas of the organization to re-use the code and will centralize this group as the main provider of quantitative analysis to the bank at large.

This research and analytics group is committed to continuing the use of the IMSL C Library and has discovered what an integral piece it is to the work they do. One group Principal adds, “Using rigorously tested IMSL algorithms from Visual Numerics is clearly better than developing our own. Developer’s time is extremely expensive in comparison to the cost of the libraries.”
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For over 30 years, Visual Numerics, with its PV-WAVE and IMSL product families, has provided trusted visualization and numerical analysis tools to thousands of technical professionals in a broad range of industries around the world. Scientists, researchers, educators, engineers, developers, Intranet managers, testers and analysts use Visual Numerics’ development tools to solve problems, identify trends and share results.

The PV-WAVE Family has all of the functionality you need in one tool, including an open software environment allowing for integration with new technologies, and the use of the IMSL Libraries which have been trusted by developers for over three decades for its accurate and reliable mathematical and statistical algorithms, creating the most powerful data analysis software available.

The PV-WAVE Family provides a broad range of easy to use, high performance solutions for any type of data challenge, while delivering significant return on investment through maximum productivity.

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