

## **New Numerical Algorithms for Technical Computing Release of the NAG Library for SMP & multicore**

15<sup>th</sup> April 2010. The Numerical Algorithms Group (NAG) announce the launch of the NAG Library for SMP & multicore.

Mathematical and statistical algorithms optimized for performance on multicore architectures have become key to progress in a wide array of applications in scientific research, energy development, quantitative financial analyses, modeling and simulations to solve engineering problems, drug discovery and genomic research, etc.

The NAG Library for SMP & multicore contains over 1600 routines, including over 100 new for this release. A complete listing of these routines can be found at ([http://www.nag.co.uk/numeric/FL/nagdoc\\_fl22/html/genint/libconts.html](http://www.nag.co.uk/numeric/FL/nagdoc_fl22/html/genint/libconts.html))

As Dr. Hartmut Schmitter of the computational support team of the High Performance Computing Virtual Laboratory at Queen's University, Kingston, Ontario comments, *"The NAG Library is very good for work on multiple cores because of the reliable parallel design of the algorithms. But it is also because of the common interface for both serial and multicore libraries. This enables users to speed up their code on many multiple core architectures with greatly reduced effort."*

David Cassell, NAG Product Marketing Manager, reports, *"Most current processors are multicore, and can provide benefits when programmed with parallel techniques. In fact, if you do not use routines tuned for multicore architectures, applications are now likely to execute more slowly. The NAG Library for SMP & multicore also has been designed to make it easy to move those applications that currently call serial routines into the parallel world, by the use of common calls and common documentation. This means users can quickly gain the benefits of parallel performance."*

*"A wide array of users worldwide converting their applications to multicore environments continue to look to NAG's technical experts for algorithms for multicore application development, because NAG algorithms have the reputation for being robust and reliable. The program speed-up that parallel computing promises is not without special challenges-- for debugging, managing race conditions, synchronization, etc. NAG's computational expertise has long been relied on by supercomputing sites worldwide to find solutions to these challenges. Many of the routines in the NAG Library for SMP & multicore have foundations in this work."*

Product inquiries and further information on NAG Library for SMP & multicore, other versions of the NAG Library, and information on NAG consulting services can be obtained by contacting the NAG offices in their locale-- [http://www.nag.com/contact\\_us.asp](http://www.nag.com/contact_us.asp).

With origins in several UK universities, the Numerical Algorithms Group (NAG, [www.nag.com](http://www.nag.com)), is an Oxford, UK headquartered not-for-profit numerical software development organization that collaborates with world-leading researchers and practitioners in academia and industry. NAG serves its customers from offices in Oxford, Manchester, Chicago, Tokyo and Taipei, through field sales staff in France and Germany, as well as via a global network of distributors.

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