

## MoSes™ HPC: HIGH-PERFORMANCE COMPUTING THAT DELIVERS RESULTS FASTER

Changing times in the financial services industry are forcing companies to improve cost management through operational efficiencies and to run more complex financial calculations faster. In these circumstances, greater speed means greater productivity. To meet these challenges, financial services firms require a high-performance computing (HPC) solution that integrates with financial modeling software that is robust, easy to operate and builds on existing IT investments.

Towers Perrin has developed MoSes HPC, a new product that enables clients to use Microsoft Windows HPC Server 2008 with MoSes Version 6.2 financial modeling software. Towers Perrin's MoSes HPC software and Windows HPC Server provide improved performance, reliability and scale for MoSes applications.

### WINDOWS HPC SERVER 2008

The Windows HPC platform provides the distributed computing power necessary to run demanding computational models in the most productive and cost-effective manner. With essential management tools, Windows HPC Server helps reduce cost and complexity using a solution that is simple to deploy, operate and integrate with existing IT infrastructure investments. Windows HPC Server can leverage your existing Windows infrastructure and skill set for managing the HPC system. The integrated Job Scheduler allows users to perform both job creation and submission directly from a desk-side application. Together, these capabilities address the

financial services industry's top priorities by making grid cluster operation as easy and secure as a single system, while leveraging customer investment in Windows software administration and tools.

### HOW IT WORKS

MoSes HPC distributes financial projections by leveraging a Windows HPC Server capability called *parametric sweeps*, which runs the same program across clusters using different input and output files, as follows:

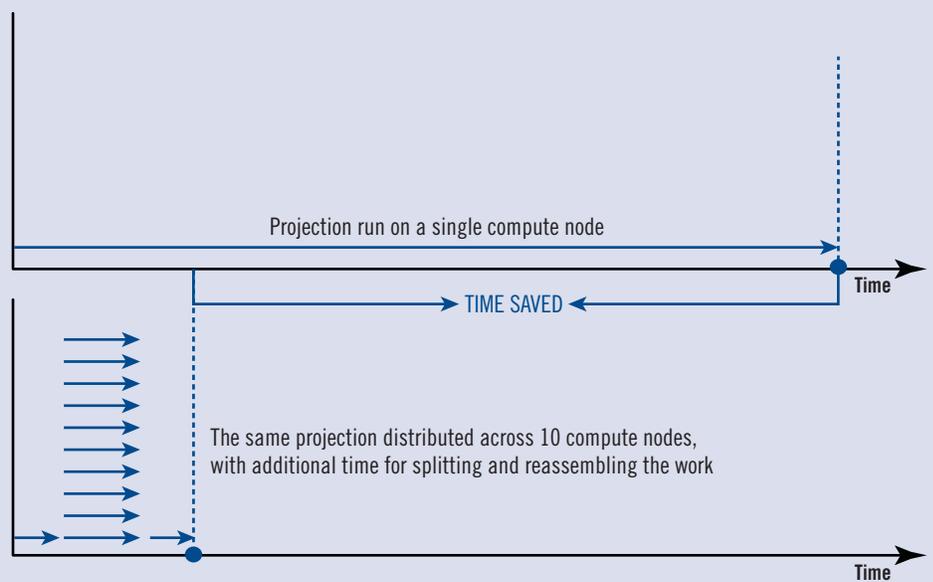
- MoSes HPC splits the input file by iteration or in-force file group into multiple input files, where each file name consists of the same stem name and a unique extension number.

- The Windows HPC Server Job Scheduler is set up to create separate jobs for a particular MoSes model and the set of input and output files specified by the stem names.
- The Windows HPC Server Job Scheduler allocates these jobs across the cluster and monitors them as they run and produce separate output files.
- After all of the distributed jobs are finished, MoSes HPC combines the output files into one result set for analysis and reporting.

By splitting the work into smaller jobs and running them in parallel, MoSes projections finish in much less time than ever before (see exhibit).

### EXHIBIT

**By splitting the work into smaller jobs and running them in parallel, MoSes projections finish in much less time**



MoSes distributed projections can finish in much less time than a single large run, providing results faster for better decision making.

#### **64-BIT PROCESSING**

Most Windows-based computer software, including MoSes, uses 32-bit processing. Windows operating systems based upon 32-bit technology support up to 4 GB of memory, of which about 1 GB is used for the operating system, leaving 3 GB for software applications.

MoSes HPC and Windows HPC Server support 64-bit processing, which provides an exponential increase in memory. Windows HPC Server supports up to 64 GB of memory, almost 20 times the memory available to MoSes applications in 32-bit operating systems. With MoSes HPC and Windows HPC Server, you can break down the memory barriers that constrain the use of complex models with large data sets and long projection periods.

#### **BENEFITS OF MOSES HPC AND WINDOWS HPC SERVER**

- MoSes distributed projections can finish in much less time than a single large run, providing results faster for better decision making.
- The 64-bit environment provides increased memory capacity, which lets you process more data.
- Windows HPC Server is simple to deploy and operate — as easy, secure and stable as a single system. It automatically handles failed jobs without user intervention. If more power is required, nodes can be added to the cluster.
- With MoSes HPC and Microsoft Windows HPC Server, you can leverage existing investments in your MoSes financial models and Windows software administration skills.

For more information about MoSes HPC and Microsoft Windows HPC Server, contact [software.solutions@towersperrin.com](mailto:software.solutions@towersperrin.com).

#### **ABOUT TOWERS PERRIN**

Towers Perrin is a global professional services firm that helps organizations improve performance through effective people, risk and financial management. The firm provides innovative solutions in the areas of human capital strategy, program design and management, and in the areas of risk and capital management, insurance and reinsurance intermediary services, and actuarial consulting.

The Software Solutions group is a leading provider of risk and financial modeling solutions, with over 400 software clients worldwide. We combine the thought leadership of our consulting practices with the systems expertise of our software professionals to provide comprehensive solutions for measuring risk, economic performance and value creation. More information about Towers Perrin is available at [www.towersperrin.com](http://www.towersperrin.com).