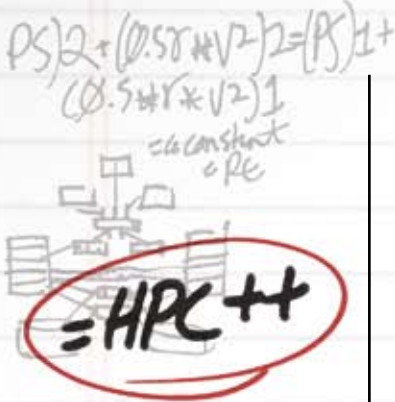


LY PRODUCTIVE HIGH PERFORMANCE COMPUTING



PARTNER PROFILES



IBM is a computing industry leader with decades of experience in high-performance computing (HPC) systems, software, and data center services. As a top cloud computing innovator, IBM also offers a robust Cloud Computing portfolio. IBM HPC clusters capitalize on the company's extensive engineering, testing and deep clustering experience. Utilizing energy-efficient technologies and innovative packaging, IBM BladeCenter® and System x™ servers featuring Intel® Xeon® processors, deliver extraordinary performance and reliability.



Milliman, Inc., is among the world's largest independent actuarial and consulting firms, with 47 offices in key locations worldwide. Top insurance and financial firms depend on Milliman's MG-ALFA® (Asset Liability Financial Analysis) software to perform financial projections to support product development, financial reporting, risk management, and decision analysis.

EXTENDING PARALLEL PROCESSING FROM THE DESKTOP TO THE CLOUD

"With the IBM Computing on Demand facility, Microsoft and IBM are delivering supercomputing performance to companies that could previously not afford it or never had access to it."

Vince Mendillo, director of HPC marketing at Microsoft Corporation

SITUATION

It's no secret that many companies are struggling with spiraling costs and the physical limitations of their IT infrastructure. For many years companies relied on applications getting faster and faster because the clock speed of CPUs continued to increase. However it is no longer true that clock speed alone can make software run faster. To increase the performance of applications, software needs to use parallelism to exploit multiple cores or multiple processors.

In the insurance industry, risk management is more important than ever. Asset valuation is becoming critical as the wholesale takeover of institutions requires a valuation of assets up front. Stochastic modeling is the best tool for estimating the value of assets with large variability over time.

The use of computational modeling is not new to the insurance industry. For modeling to influence critical business decisions it must provide accurate results. Accuracy involves analyzing larger models, including thousands of scenarios, that are run more frequently. This requires sophisticated actuarial tools and access to HPC systems. With more compute power, stochastic scenarios are easier, and more accurate.

"Our customers are interested in an HPC cluster solution that is easy to deploy. The combination of Windows HPC Server 2008 with the fully integrated IBM Cluster 1350 solution is a winning combination. Customers can leverage their current Windows Server expertise to deliver faster time to insight when running Milliman's MG-ALFA on an IBM HPC cluster."

Dave Jursik, IBM Vice President, Deep Computing Sales

If your company has simply hit the ceiling of its IT compute resources, there is a solution. HPC servers were just the start. Now, the same parallel programming ability extends from desktops, to clusters, to the cloud.

SOLUTION

HPC for Windows Platform

Microsoft® Windows® HPC Server 2008 combines the power of a 64-bit Windows Server® platform with rich, out-of-the-box functionality to improve the productivity, and reduce the complexity, of an HPC environment.

With the availability of Windows HPC Server 2008, IBM and Milliman have chosen to combine Milliman HPC actuarial software, IBM cluster technology, and Windows HPC Server 2008 to provide actuaries in the insurance industry with a powerful, scalable, affordable, and easy-to-use HPC solution.

HPC Actuarial Software

MG-ALFA is a Windows-based system that generates financial projections to support decision and risk analysis. MG-ALFA was designed by, and for, actuaries with an understanding of the real-world needs and requirements of a system to meet insurance industry demands, including the ability to audit, analyze, and justify results and assumptions from large models.

Revolutionary Server Technologies

By running Windows HPC Server 2008 on an IBM® System Cluster 1350, customers can accelerate time-to-insight and benefit from HPC that is simple to deploy, operate, and integrate with existing infrastructure and tools. The Cluster 1350 utilizes revolutionary, compact, and energy-efficient System x™ iDataPlex™ servers, cost-effective rack-optimized servers, and BladeCenter® blade servers for extraordinary performance and reliability.



IBM® System Cluster 1350

IBM System x and BladeCenter servers are built on open standards and offer a range of affordable, high performance, easy to manage platforms designed to help optimize your datacenter and lower your cost of ownership.

IBM BladeCenter® S offers the power of a data center under your desk; a true all-in-one solution: servers, networking, management, and now a fully redundant, integrated SAN storage option built into the chassis.

IBM BladeCenter® HS21 and HS21 XM blades deliver flexibility and simplicity for the data center. With expanded memory this system delivers optimal performance with low-voltage Intel processors in an energy efficient, high availability, integrated system.

Intel-based IBM System x3550 and x3650 servers can provide unprecedented performance and reliability for the data center.

By running Windows HPC Server 2008 on an IBM® System Cluster 1350, customers can accelerate time-to-insight and benefit from HPC that is simple to deploy, operate, and integrate with existing infrastructure and tools.

IBM® COMPUTING ON DEMAND (CoD)

IBM Computing on Demand (CoD) - the leading cloud computing enterprise solution - provides flexible computing power, global access, and the security you depend on. By off-loading computation tasks to CoD, customers can scale their infrastructure without further capital investments, helping to reduce costs and improve customer's competitive advantage. With over 14,000 processors and 56 Terabytes of storage in six global

CoD centers, IBM is well positioned to offer actuarial firms secure computing capacity by the hour, week or year.

MG-ALFA

MG-ALFA actuarial projection system delivers the performance in setup, run time, and analysis. Its formula database uses a logical scripting language that requires no programming skills. This flexibility increases productivity and allows companies to quickly empower their staff.

MG-ALFA scales extremely well, allowing it to readily and efficiently support the industry demand for stochastic and nested stochastic analysis. The integration of MG-ALFA with Windows HPC Server 2008, allows seamless distribution of jobs to clusters ranging from a single node to several hundred.

WINDOWS HPC SERVER 2008

Windows HPC Server 2008 enables broader adoption of HPC, and increases productivity by providing numerous end-user, administrator, and developer features and tools, including:

- A rich and integrated end-user experience scaling from the desktop application to the clusters.
- Microsoft management tools that you can leverage to centrally manage the Windows Server infrastructure, including full support for command-line interfaces for administrators.
- Support for familiar development tools, such as the native parallel debugger in Microsoft Visual Studio®, to develop and troubleshoot parallel programs, including support for standard interfaces such as OpenMPI, Message Passing Interface (MPI), and Web Services.

BENEFITS

Together, the Windows HPC Server 2003, Milliman and IBM solution benefits customers by enabling:

Access to leading-edge cluster technology

Benefit from cutting-edge compute, storage and management nodes, cluster interconnects, high performance switches, and storage solutions.

Faster, more accurate actuarial models

Parallel processing software for financial modeling helps insurance firms gain greater confidence in their decision-making.

Enhanced productivity

Customers can accomplish more, in less time, with reduced effort.

Affordable, full-featured HPC

Parallel modeling capability with painless, cost-effective, cluster deployment, integration, and support.

Increased quality and faster time-to-insight

Using HPC resources provides faster time-to-insight and can increase product quality levels.

Off load datacenter space, power and cooling costs

Simpler HPC clusters and networks can reduce power and cooling requirements, which can dramatically reduce the total cost of cluster computing.

FURTHER INFORMATION

For more information about Windows HPC Server 2008, please visit <http://www.microsoft.com/hpc>

For more information about MG-ALFA, please visit <http://www.milliman.com>



Test Drive the Solution

Visit IBM CoD
<http://www.ibm.com/deepcomputing/cod>