

# Windows HPC Services for Excel 2010

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## What does the your Actuarial puzzle look like?

Variable Universal Life **The MathWorks** **barrie+hibbert**  
Enterprise Risk Management **MG-ALFA** Single /Flexible Premium **MG-Hedge** Universal Life  
**Aleri** **MILLIMAN** **OLIVER WYMAN** Differed /Immediate Annuities  
Reserve Calculations **RiskAMP** Traditional Whole Life Asset Liability Modeling  
Fixed/Variable Annuities **TOWERS PERRIN** **SUNGARD** **iWORKS PROPHET**  
Financial Modeling **POLYSYSTEMS, INC.** Unified Life Term Life Disability  
**axis** **ARC** In House Developed **SIMtone** HPC  
Fixed Period vs. Lifetime Annuities **NumeriX** **Applications Excel 2007** Unified Life **WOLFRAMRESEARCH** Long Term Care  
**Windows HPC Server 2008**

## Windows HPC Services for Excel




*"My workbook takes too long to calculate!"*

Use the cluster to run 16, 64, 256 times faster, or more

*"I want to run more calculations!"*

Or run more calculations in the same time – limited only by available compute resources

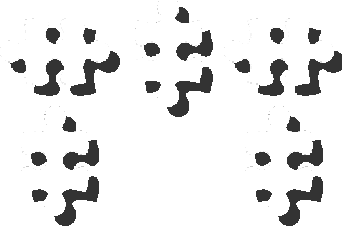
## Windows HPC Services for Excel Business Drivers

-  1 Competitive Advantages
-  2 Operational performance  
(cost, quality and time to market)
-  3 Quality driven Regulatory Compliance
-  4 Rapid cycles of Product Innovation

## Windows HPC Services for Excel

### What is HPC Services for Excel?

- Excel 2010 on the desktop
- HPC Server 2008 R2
- Cluster-Enabled UDFs
- Calculating workbooks on the cluster



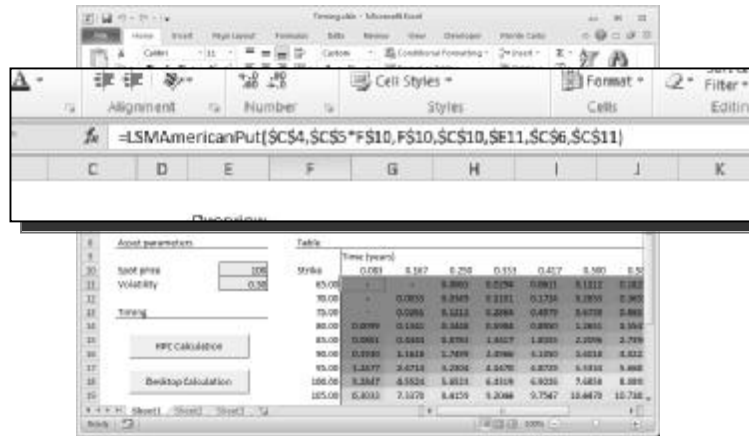
## Windows HPC Services for Excel

### Why Excel?

- **Users:** Excel is the standard in accounting, financial services, and many other industries
- **Development:** More people use Excel than program in C, Fortran, Visual Basic, or anything else
- **Countless Excel spreadsheets and models already exist and are in use everywhere**

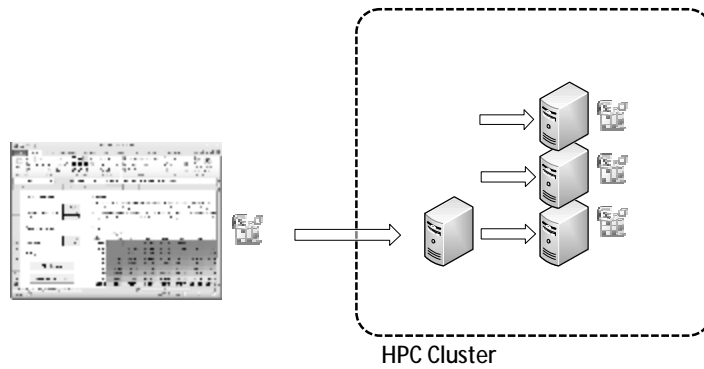
# Windows HPC Services for Excel

## Cluster-Enabled UDFs



# Windows HPC Services for Excel

## Cluster-Enabled UDFs Cluster Calculation



## Windows HPC Services for Excel

### When would you use a cluster-enabled User-Defined Function?

- Build new user-defined functions or update existing UDF libraries to run on the cluster
- Write native code for performance

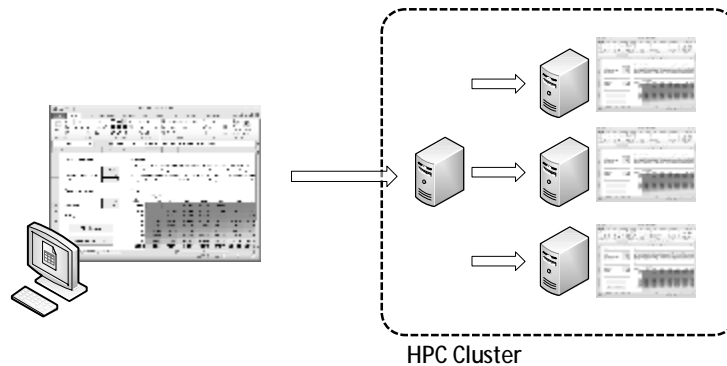
## Windows HPC Services for Excel

### Calculating Workbooks on the Cluster



## Windows HPC Services for Excel

### Calculating Workbooks on the Cluster

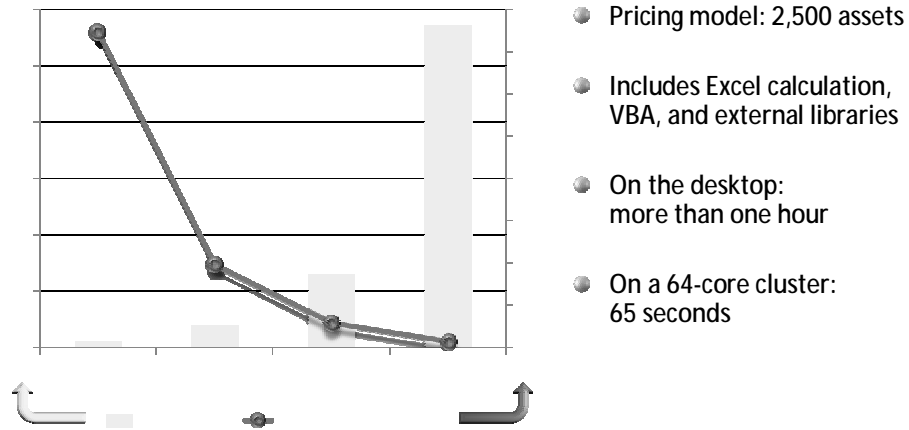


## HPC Services for Excel

### When would you calculate Excel workbooks on the cluster?

- Long-running Excel workbooks
- Iterative calculations
- Support VBA, third-party add-ins, external resources

## Windows HPC Services for Excel



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## Windows HPC Services for Excel

### Use cases in the Insurance industry

- Reserve requirements calculation
- Pricing assets, derivatives and exotics

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## Windows HPC Services for Excel

- What is HPC Services for Excel?

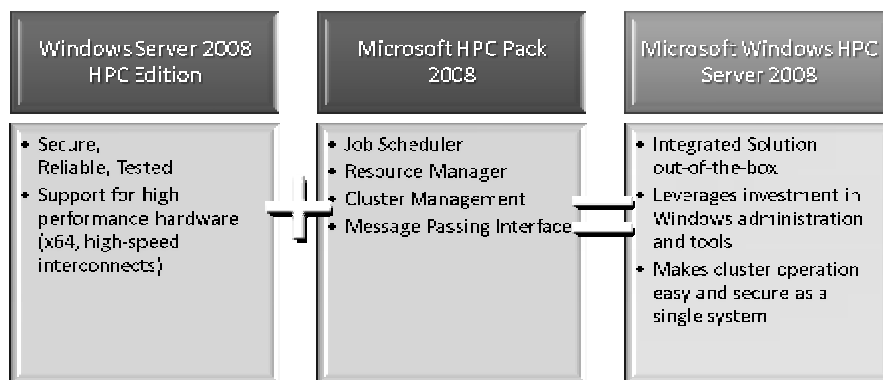
Two ways to speed up long-running or slow Excel calculations: cluster-enabled UDFs and calculating Excel workbooks on the cluster

- What's required to use it?

Cluster-enabled UDFs require C programming. Calculating workbooks on the cluster requires nothing more than VBA.

## Windows HPC Server 2008

- Complete, integrated platform for computational clustering
- Built on top the proven Windows Server 2008 platform
- Integrated development environment



## Windows HPC Services for Excel

- **Technical Requirements**

Windows HPC Server 2008 R2 Cluster  
Excel 2010 (32-bit or 64-bit) Professional Plus

- **More Information**

[www.microsoft.com/hpc/](http://www.microsoft.com/hpc/)

## QUESTIONS?

