



TOWERS  
PERRIN

# MoSes™

Risk and Financial Modeling Software for Insurers

# MoSes™ Risk and Financial Modeling Software for Insurers

Volatile economic conditions, pending regulatory mandates and increasing scrutiny from rating agencies are driving insurers to use more sophisticated financial modeling to support realistic economic-based valuation and risk analytics. MoSes is a financial modeling system with the sophistication to generate this type of information. On this platform, companies can either use standard MoSes applications tailored to their business or create new models to suit their most exacting needs.

Leading insurers around the world use MoSes, including three of the six largest life insurers and five of the six largest property & casualty insurers in Japan, two of the five largest life insurers in China, and several of the largest life insurers in Europe and the United States, along with Towers Perrin consultants worldwide.

Why do these companies choose MoSes? It provides the flexibility to tailor sophisticated financial models to their business. Moreover, knowing that MoSes is widely used gives our clients confidence that the software platform and applications have the proven capabilities that they need to measure value, manage risk and safeguard solvency.

## COMPREHENSIVE LIBRARY OF APPLICATIONS

Towers Perrin has developed standard MoSes applications for several geographies and product types (see sidebar). Our consultants are regularly building and refining applications in the course of their client work and intellectual capital development.

### A FEW OF OUR AMERICAS MoSes APPLICATIONS

- **TAS-MoSes** — is a comprehensive application for a wide range of U.S. life and annuity products, including traditional life, universal life, immediate annuities and deferred annuities. This application uses proven methods developed over many years by our experts.
- **Variable Annuity Reserves and Capital** — provides VA CARVM reserve calculations and RBC C-3 Phase II risk-based capital calculations, as required by the NAIC, for variable annuity products with guarantees.
- **Variable Annuity Hedging** — calculates point-in-time valuations of variable annuity portfolio fair values, option portfolio sensitivities (“Greeks”) and financial projections of variable annuity guarantees to enable management of dynamic hedging strategies. This application enables you to quantify hedging strategy effectiveness, the impact on the product risk profile, and implications for capital and reserve requirements.
- **Economic Scenario Generator (ESG)** — lets you project market-consistent economic scenarios describing interest rates, corporate bond spreads, stock and property returns, and other asset prices.
- **Mexico Corporate Asset/Liability Management Application** — is a multiline corporate model that projects life (traditional and universal) and non-life business consistent with local regulations, and can also be used for dynamic solvency testing, pricing and embedded value.

You can use MoSes applications for a variety of tasks, including:

- product development
- pricing of guaranteed options
- cash-flow testing
- reserving
- reinsurance optimization
- economic capital calculation
- liability modeling
- asset/liability modeling.

### FLEXIBLE AND ADAPTABLE

MoSes offers unmatched flexibility to tailor applications, making it ideal for addressing current and future modeling needs. Authorized users can fully customize the application code to model their business.

MoSes also offers unmatched flexibility for modeling complex product designs. The modular design capabilities of MoSes give you the ability to cater to different jurisdictions.

MoSes enables your company to deploy sophisticated analytical calculations based upon realistic economic principles, thereby improving risk and capital management.

#### MoSes APPLICATIONS ARE TRANSPARENT

Unlike some other financial modeling systems, MoSes applications are completely transparent. You can view all of the application code — no black box here. This openness gives you the increased confidence that comes from understanding exactly how the applications model your business. And with controlled access, authorized users can edit their MoSes models.

#### USABILITY

Users who develop or modify applications use the Design View, while those who run MoSes financial projections for their work use Task View. You can create user-defined views tailored to provide a simple, purpose-built interface that streamlines workflow. Product development, pricing and corporate modeling actuaries can work with application screens tailored for their tasks. User-defined views can be supplemented with reports and embedded graphs.

#### MoSes SUPPORTS DISTRIBUTED PROCESSING WITH MICROSOFT HPC

Changing times are forcing companies to run more complex financial calculations faster. To meet these challenges, financial services firms are turning to high-performance computing (HPC) solutions like the Microsoft Windows HPC Server 2008. This grid solution is robust, easy to operate and builds on your existing IT investments.

Towers Perrin's MoSes HPC is a new product that provides increased scale for your MoSes applications. By splitting calculations into smaller jobs and

running them in parallel across a grid, they finish in much less time. This HPC environment also supports 64-bit processing to help you break down memory barriers that constrain the use of complex models with large data sets and long projection periods.

#### MoSes WORKS WITH RiskAgility™

RiskAgility is Towers Perrin's enterprise financial modeling software platform for insurance companies. The RiskAgility platform enables data management, scheduling, distributed processing and audit capabilities in a controlled technology environment. RiskAgility will augment the management of your MoSes models to make running projections more efficient, controlled, reliable and easily repeatable.

#### GLOBAL SUPPORT

Towers Perrin has offices and alliance partners in the United States, Canada, Europe, Asia, Latin America, South Africa, Australia, New Zealand and the Middle East. Our geographical coverage gives us local knowledge of culture and language in many of the leading business centers, which helps us better understand your business issues and needs.

#### WHY MoSes

MoSes risk and financial modeling software:

- provides unmatched flexibility to tailor applications to fit your business perfectly
- uses open, transparent applications to help you confidently understand exactly how the calculations model your business

- supports distributed computing with Microsoft Windows® HPC Server 2008 and MoSes HPC for increased scalability
- works with RiskAgility, a platform that provides enterprise-class management and control capabilities of your financial modeling operations
- enables your company to deploy sophisticated analytical calculations based upon realistic economic principles, thereby improving risk and capital management
- is widely used by leading insurers and Towers Perrin consultants.

#### 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).

