

Overview

Catastrophe modelling is the process of using computer simulations to estimate the financial and economic losses caused by extreme events like hurricanes, earthquakes, cyber breaches and terrorism. Oasis Loss Modelling Framework (LMF) has been at the leading edge of CAT modelling for over 15 years.

To meet evolving industry demands, Oasis partnered with fourTheorem to build a modern, robust, and globally scalable SaaS CAT modelling platform.

Challenge

Given the overall rise in catastrophic risk, partly due to climate change, (re)insurers increasingly require the ability to:

- Run significantly larger and more complex catastrophe models
- Scale modelling workloads dynamically during peak periods
- Reduce infrastructure and operational overhead
- Improve time-to-insight for underwriting and portfolio management
- Maintain strict security and regulatory compliance standards

Thus the challenge for the team was to provide a world class multi-tenanted CAT modelling platform that could dynamically scale to meet the demands of disparate customers each with highly variable compute demands.

Furthermore the requirement was to deliver the first version within one business quarter.

Solution

Working collaboratively with Oasis, fourTheorem were able to rapidly deploy a secure, robust multi-tenanted platform leveraging their **Landing Zone Accelerator**. Using the fourTheorem **Modelling Accelerator** and the Oasis LMF framework the team were able to begin executing models within a matter of weeks. The system was ready for customer acceptance testing ahead of schedule. Key technical pillars of the solution include:



Scale to Zero Architecture – analysis workers only consume resources when a model run is active. Eliminating the "idle cost".



Elastic Scaling On Demand – Compute resource scales in line with business needs, removing resource contention issues and capacity planning.



Blast-Radius Isolation: A dedicated per-tenant account structure ensures that each customer's data are fully isolated.



Seamless Integration – A fully authenticated, secured and authorized external API is provided for customer integration into the system.

Benefits

The Oasis SaaS platform delivers the following business benefits to (re)insurance customers:



Choice – Access to 300+ models from ~20 independent providers.



Profitability – Multi-model approaches deliver measurable advantages worth tens of millions annually for mid-sized insurers through superior risk selection.



Reduced TCO
Transparent insights into costs; optimise price/performance. No infrastructure or servers to manage.



SOFTWARE
AS A SERVICE

"Catastrophe modelling sits at the heart of how the insurance industry prices risk and protects communities. The market urgently needs a neutral, scalable platform where every modeller can be accessed on equal terms. Working with fourTheorem we have been able to build a highly performing, enterprise grade modelling platform in weeks. The speed and quality of the delivery by the combined team has been frankly remarkable!"

– **Dickie Whitaker, Oasis SaaS Chair**

"The independent offering of Oasis SaaS represents a significant milestone for the industry. By providing a neutral, industry-owned platform, it empowers model vendors to deliver their intellectual property securely and transparently, while enabling model consumers to access and select the most suitable models without being constrained by platform dependencies."

– **Beat Aeberhardt, Head Cat and Geo Modelling, Swiss Re & Oasis LMF Board Member**

fourTheorem Accelerators

- [Modelling Accelerator](#)
- [Data Platform Accelerator](#)
- [Modernisation Factory](#)
- [Landing Zone Accelerator](#)

Get Started

To learn more about this case study, contact:

hello@fourtheorem.com



- Advanced Tier Services
- AWS Lambda Delivery
- AWS ECS Delivery
- Migration Services
- Serverless Hero