

Mo.net Financial Modelling Platform

Introducing Mo.net Model Health Checks

February 2026
Revision 2

Background

Actuarial models form the analytical backbone of modern life insurance companies. They support pricing, financial reporting, capital management, risk assessment, and long-term strategic planning. As insurers continue to adopt modern modelling platforms such as Mo.net, the capabilities of actuarial systems have improved significantly, particularly in areas such as integrated financial reporting, scalable model execution, and enterprise-level governance.

However, the speed at which models can be developed and adapted introduces new challenges. Over time, actuarial models tend to accumulate additional logic, patches, assumptions, and structural complexity. Product launches, regulatory change, and evolving financial reporting standards, such as IFRS 17, have further accelerated model development cycles.

While this flexibility is essential, it can also introduce risks. Models may become difficult to maintain, slower to run, or harder to validate. Documentation can fall behind implementation, and architectural consistency may drift as models evolve.

A comprehensive actuarial model health check provides an independent, structured review of the modelling environment. The objective is not to rebuild the model but to evaluate its architecture, performance, governance, and operational robustness. Such a review enables insurers to identify improvement opportunities, reduce operational risk, and ensure that the modelling framework remains aligned with business and regulatory requirements.

This paper outlines a practical framework for conducting a Mo.net model health check, including the scope of review, analytical approach, and the benefits insurers can expect from undertaking such an assessment.

The Importance of Actuarial Model Governance

Actuarial models have become increasingly central to financial reporting and regulatory compliance. With the introduction of IFRS 17 and heightened scrutiny

from regulators and auditors, the expectations placed on actuarial systems have increased substantially.

Insurers must now demonstrate:

- Clear model governance frameworks
- Transparent and well-documented model methodologies
- Robust validation and testing processes
- Consistency between actuarial theory and model implementation

In parallel, business demands on actuarial models have expanded. Insurers expect models to support:

- Multi-basis projections (IFRS 17, Solvency II, local GAAP)
- Scenario analysis and stress testing
- Rapid turnaround for management reporting
- Integration with enterprise data platforms

As a result, many organisations are operating models that have grown significantly in scale and complexity. Even when models are well-designed initially, several common challenges tend to emerge over time:

Accumulation of technical debt

Model updates implemented under time pressure can introduce shortcuts or duplicated logic.

Performance degradation

New functionality may increase model runtime or infrastructure usage.

Architectural drift

Inconsistent development approaches across teams can lead to fragmented model structures.

Governance gaps

Documentation, testing frameworks, and version control processes may not evolve at the same pace as the model itself.

A structured health check provides a systematic way to assess these risks and strengthen the long-term sustainability of the modelling environment.

Objectives of a Mo.net Model Health Check

A Mo.net health check typically focuses on four core objectives:

1. Strengthening Model Integrity

The primary objective is to ensure that the model structure and implementation remain consistent with actuarial design principles. This includes validating the alignment between model calculations and documented methodologies.

2. Improving Performance and Efficiency

Modern actuarial models process large datasets and complex projections. Identifying performance bottlenecks can significantly reduce model runtime and improve operational efficiency.

3. Enhancing Transparency and Governance

Improved documentation, clearer architecture, and stronger governance frameworks enhance the ability of stakeholders—actuaries, finance teams, auditors, and regulators—to understand and trust the model outputs.

4. Supporting Long-Term Maintainability

A health check helps ensure that models remain adaptable to future regulatory, product, or business changes without requiring major redesign.

Scope of a Mo.net Model Health Check

A robust review of a Mo.net modelling environment typically covers five key domains.

1. Model Architecture and Design

The architecture of an actuarial model determines its scalability, maintainability, and transparency. A health check begins by reviewing the high-level structure of the modelling environment.

Key areas of focus include:

Model modularity

Well-structured models separate product logic, assumptions, data handling, and reporting components. Clear modularisation improves maintainability and simplifies future enhancements.

Consistency of model design

Across large organisations, different models may have been developed by different teams. Ensuring consistent design patterns reduces operational complexity.

Data flow architecture

Understanding how data moves through the modelling environment is essential for identifying inefficiencies or control gaps.

Dependency management

Complex dependency chains can introduce unintended interactions between components of the model.

The architecture review typically produces a visual representation of the model structure, highlighting areas where simplification or standardisation could improve robustness.

2. Calculation Logic and Methodology

The next stage examines the implementation of actuarial calculations within the model.

Areas typically reviewed include:

- Cashflow projection mechanics
- Policy state transitions and product features
- Discounting and financial assumptions
- Implementation of IFRS 17 calculations, including CSM and fulfilment cashflows
- Scenario and sensitivity modelling

The objective is to confirm that the modelling approach is internally consistent and reflects the intended actuarial methodology. In many cases, the health check identifies opportunities to simplify or rationalise complex calculation logic.

3. Model Performance and Runtime Efficiency

Performance is a critical operational factor for actuarial models. Long runtimes can delay reporting cycles and increase infrastructure costs.

Performance analysis typically includes:

- Profiling of model runtime behaviour
- Identification of computational bottlenecks
- Review of unnecessary recalculations or duplicated logic
- Evaluation of data aggregation strategies

Optimisation opportunities may include improvements in model structure, data handling, or configuration settings. Even modest efficiency improvements can lead to significant reductions in runtime for large-scale models.

4. Data Management and Integration

Reliable data pipelines are essential for actuarial modelling.

A health check assesses:

- Data extraction and ingestion processes
- Validation and reconciliation controls
- Handling of large datasets and aggregation logic
- Integration with enterprise data platforms

Strong data governance improves both operational reliability and audit readiness.

5. Model Governance and Operational Controls

Governance frameworks ensure that models remain transparent, controlled, and auditable.

Key areas of review include:

Documentation

Documentation should clearly explain model structure, assumptions, and methodologies.

Change management

A structured process for implementing model changes helps reduce operational risk.

Testing frameworks

Regression testing and validation processes should confirm that model changes do not introduce unintended impacts.

Version control

Effective version control ensures that historical model versions can be reproduced when required.

Strengthening these governance processes is often one of the most valuable outcomes of a health check.

Health Check Methodology

A Mo.net model health check typically follows a structured, collaborative approach.

Phase 1 – Discovery

Initial interviews with actuarial, finance, and technology teams help establish an understanding of:

- Model objectives and scope
- Key pain points and operational challenges
- Existing governance frameworks

This stage ensures that the review focuses on areas of greatest value.

Phase 2 – Technical Assessment

The technical review involves detailed examination of the model structure, configuration, and execution processes within the Mo.net environment. Specialist tools and profiling techniques may be used to analyse model performance and identify inefficiencies.

Phase 3 – Diagnostic Analysis

Findings from the technical review are consolidated into a structured diagnostic assessment.

Common findings may include:

- Structural complexity or duplicated logic
- Opportunities for runtime optimisation
- Gaps in documentation or governance processes
- Inconsistent development standards

Phase 4 – Recommendations and Improvement Roadmap

The final stage delivers a practical set of recommendations prioritised by impact and implementation effort.

Typical recommendations may include:

- Model architecture improvements
- Performance optimisation initiatives
- Governance framework enhancements
- Documentation improvements

An implementation roadmap helps organisations address findings in a structured and manageable way.

Benefits for Clients

Organisations that undertake actuarial model health checks typically realise several strategic benefits.

Improved Operational Efficiency

Optimised models run faster and reduce the operational burden associated with financial reporting cycles.

Reduced Model Risk

Clearer model structures and improved governance reduce the likelihood of modelling errors.

Enhanced Transparency

Better documentation and architecture improve collaboration between actuarial, finance, and risk teams.

Greater Regulatory Confidence

Stronger governance frameworks support internal model validation and regulatory engagement.

Long-Term Sustainability

A well-structured modelling environment is easier to maintain and adapt as business requirements evolve.

Conclusion

Actuarial models represent critical infrastructure within modern insurance organisations. Platforms such as Mo.net provide powerful capabilities for financial modelling and reporting, but maintaining model quality requires ongoing oversight.

A comprehensive health check offers a structured way to evaluate model architecture, performance, governance, and operational resilience. By identifying improvement opportunities and strengthening governance frameworks, insurers can enhance confidence in their actuarial results and ensure that their modelling platforms remain fit for purpose in an increasingly complex regulatory and financial environment.

Regular model health checks should therefore be considered a key component of actuarial model governance and best practice.

Contact Us

For more information regarding the Mo.net platform and to discuss your model health check requirements, please get in touch:

Software Alliance Limited
54 Charlotte Street, London, W1T 2NS
Tel: +44 (0) 20 3964 2755
www.softwarealliance.net

Author: Guy Shepherd

© 2026 Software Alliance Limited. All rights reserved.

Mo.net is a registered trademark of Software Alliance Limited. All other brand names and product names used in this document are trade names, service marks, trademarks or registered trademarks of their respective owners.