

# Mo.net Financial Modelling Platform Delivering IFRS17 with Mo.net

July 2018

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Revision 4

## Background

### Defining Insurance

IFRS 17 will apply to all contracts which meet the IASB definition of insurance, which is essentially any contract where a significant insurance risk is transferred to the insurer. It should be noted that for accounting purposes, some policies will be classified as investment contracts and therefore need to be reported under IFRS 9 rather than IFRS 17.

IFRS 17, previously known as IFRS 4 Phase II, is a forthcoming Financial Reporting Standard for insurance contracts. It aims to bring a consistent approach to financial reporting across borders, removing the numerous inconsistencies that exist between local GAAPs. IFRS 17 is currently due to come into force on 1<sup>st</sup> January 2021 – the date of transition.

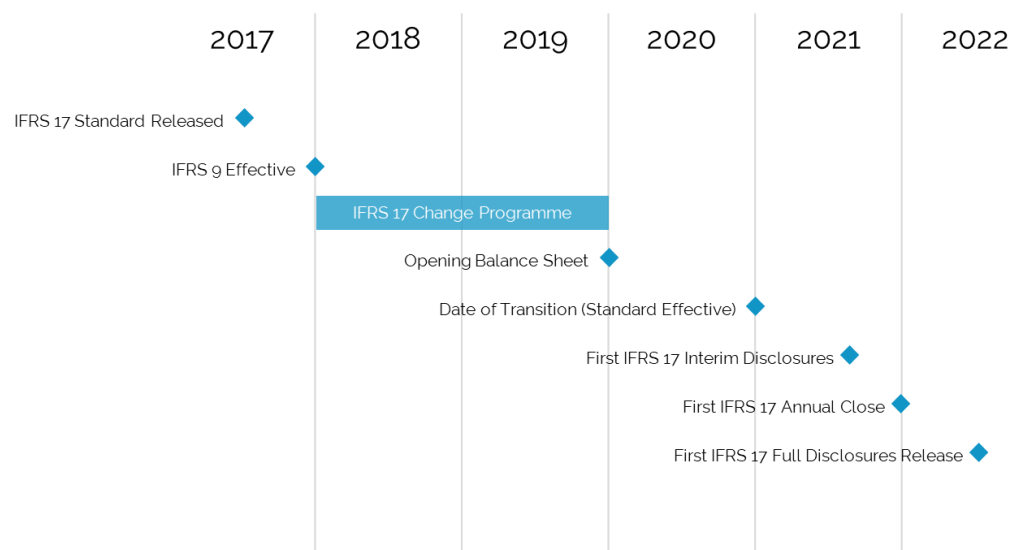


Figure 1 - IFRS 17 Timetable

The most significant impact of IFRS 17 will be on an insurer's balance sheet, P&L and profit recognition patterns, with no meaningful impact on the capital requirements & reporting demanded by Solvency II. Even so, the new standard will still require substantial changes to the way that insurers operate, with major investments in systems & process needed to meet the 2021 transition date.

## Key Challenges

IFRS 17 presents a number of specific challenges for insurers, many of whom have only recently embedded the significant changes to systems & processes required to meet the needs of Solvency II. While each of the challenges may at first glance look reasonably self-contained, each presents its own unique problems, and some have potentially far-reaching implications on related systems, processes and people.

## Data

One of the principal challenges of IFRS 17 is the need to apply the regime retrospectively to any insurance liability in force on the date of transition. Clearly this will have significant implications where the necessary information (primarily policy data and historic economic & underwriting assumptions) is either unavailable or not of the required granularity to feed the calculations required by the new standard. While the IASB provides alternative, simplified approaches where appropriate historical data isn't available, the insurer will need to demonstrate why the preferred approach cannot be used and that any alternative is appropriate.

To support the calculation and tracking of the Contractual Service Margin (see below) the IASB is recommending the adoption of a cohort-based approach, similar to that used for US-GAAP reporting, where similar policies are locked into specific groups (cohorts) by inception date / profit profile. Downstream analysis & reporting is then performed on a cohort-by-cohort basis. Once allocated to a specific cohort, policies cannot move between them. Appropriate data / rules will need to be applied to policy administration systems in order to assign contracts to the appropriate cohort. This additional information will then need to be passed down to the modelling engines and used to apply the appropriate set of assumptions.

Another challenging aspect of IFRS 17 is the need to store not only results by cohort over different reporting periods, but also the data & assumptions used to create the results. In particular IFRS 17 requires active monitoring of specific measures over time – including the CSM – all of which has a direct implication for data storage, access and analysis. This is likely to new data storage, management & monitoring problems, especially for insurers who haven't already established comprehensive data governance frameworks.

## Calculations

Under IFRS 17 the calculation of liabilities is driven by a revised set of core principles. While the insurer is free to select the most appropriate basis that satisfies these principles for each line of their business, the default approach is known as the Building Block Approach for modelling fulfilment cashflows.

The Building Block Approach is simply an extension of a traditional discounted cashflow model, but with explicit allowance for a Risk Adjustment and the deferral of any excess margins through what is known as the Contractual Service Margin ("CSM"). Existing calculations of Best Estimate Liability ("BEL") and discounted BEL can be reused within the Building Block Approach, although different assumptions / discount curves will need to be applied to satisfy the specific requirements of IFRS 17. Any non-linearities may require appropriate stochastic modelling similar to that required under Solvency II.

The Risk Adjustment is simply designed to represent the cost of bearing the insurance risk in contractual obligations. It's analogous to the Risk Margin required under Solvency II and may be valued using similar cost of capital methods.

The CSM is a new concept specific to IFRS 17 and represents the unearned expense margin of a contract over the remaining lifetime of the policy. While the calculation itself is not particularly onerous, the CSM will need to be calculated and monitored to avoid it becoming negative in a given cohort, on at least a cohort-by-cohort basis, although per-policy calculations may be useful to support detailed analysis & confirmation of attribution of policies to the correct cohort. The CSM will also have to be recalculated during each subsequent reporting period for each cohort in order to take account of any change in assumptions that might affect future cashflows. Even if assumptions don't change, the calculation will still need to be performed as the CSM reduces over time as insurance services are

### Alternatives Approaches

In addition to the Building Block Approach, insurers may use a Premium Allocation Approach or Variable Fee Approach. These alternatives are most appropriate for P&C lines and with profits / variable annuities respectively.

provided. These additional calculations will clearly lead to a significant uplift in the compute and storage demands of an end-to-end reporting cycle.

With the appearance of the RA and CSM measures, another change under IFRS 17 is the definition of revenue. While existing accounting methods define revenue as simply the premiums expected by the insurer, the revised definition expresses revenue as the cashflow required to cover valuation benefits & expenses plus the release of the RA and the CSM. This change will require additional revenue stream calculations not currently performed under the existing reporting standard.

### Retrospective Application

One of the most significant implications of IFRS 17 is the requirement to calculate the CSM for all in force business at the date of transition. This may be particularly onerous since the availability of original data & assumptions may be limited. While the IASB makes provisions for this information not being available, using any approximation / estimation may have downstream impacts on profit emergence over the remaining life of the contract.

### Connectivity & Governance

All recent regulatory changes have increased the focus on appropriate governance & control mechanisms throughout the financial reporting cycle, and IFRS 17 is no exception. The same standards of control & governance that are in place in today's finance reporting environments will need to be applied to the wider IFRS 17 reporting enterprise, including aspects of actuarial modelling & data / assumptions management not previously under the spotlight. For the first time actuarial models will need to be audited in detail by external auditors as they will now form a fundamental part of the IFRS close. Insurers will need to demonstrate that models are fit for purpose at a much more granular level than before, and so-called expert judgements & manual interventions will be harder to justify without having the necessary evidence in place to support specific actions. Given that most actuarial models / processes are relatively opaque, and many rely on vendor-supplied black-box libraries, making these transparent in order to stand-up to external scrutiny will be a significant challenge for many.

With this renewed focus on end-to-end governance, all system & data interfaces will need to provide industrial strength security, control and auditing. While this has long been the vision for insurance, today's reality is often rather different, in part due to the number of legacy platforms in use and the fragmented / evolutionary nature of existing systems & processes.

While many insurers will hope to use IFRS 17 as an opportunity to review existing systems & processes and establish new ways of working to meet the challenges of the new standard, the tightly-coupled legacy components in use today will ultimately constrain the ambition of many.

### Performance

Clearly the increased volume of calculations required to support IFRS 17 calculations such as the CSM will have significant implications for today's modelling platforms and associated interfaces / data stores. This, in turn, will require greater volumes of data to be obtained from a wider selection of sources / systems. Needless to say the volume of output produced under IFRS 17 will dwarf that produced today.

Modest improvements to existing legacy models & underlying infrastructure are unlikely to meet the needs of IFRS 17, even when considering cloud-based alternatives. Unfortunately the real impact on technical infrastructure is only likely

to be known much closer to the transition date, when there will be little opportunity to embrace alternative approaches.

While new technology paradigms, such as cloud computing and process automation / BPM, will undoubtedly be part of many insurer's solutions, the reality of retrofitting tightly coupled, first generation modelling systems into such environments is unlikely to deliver all the perceived benefits without significant changes or even replacement of the existing, legacy platforms.

## Evolutionary Solution Design

In the absence of any alternative technology solution, most insurers will be evolving (again) their existing financial reporting processes. While these processes are well understood, their ability to flex & scale to meet the requirements of IFRS 17 remains unclear. The most crucial shortcoming of this so-called "left to right" solution design is the significant delay in receiving any meaningful results, analysis or reporting measures, with little or no time to re-run even partial results if required. This may drive more companies down an early close route, although this is by no means a solution to all the challenges of IFRS 17, and perpetuates / exacerbates the many existing tightly-coupled, resource intensive processes in use today.

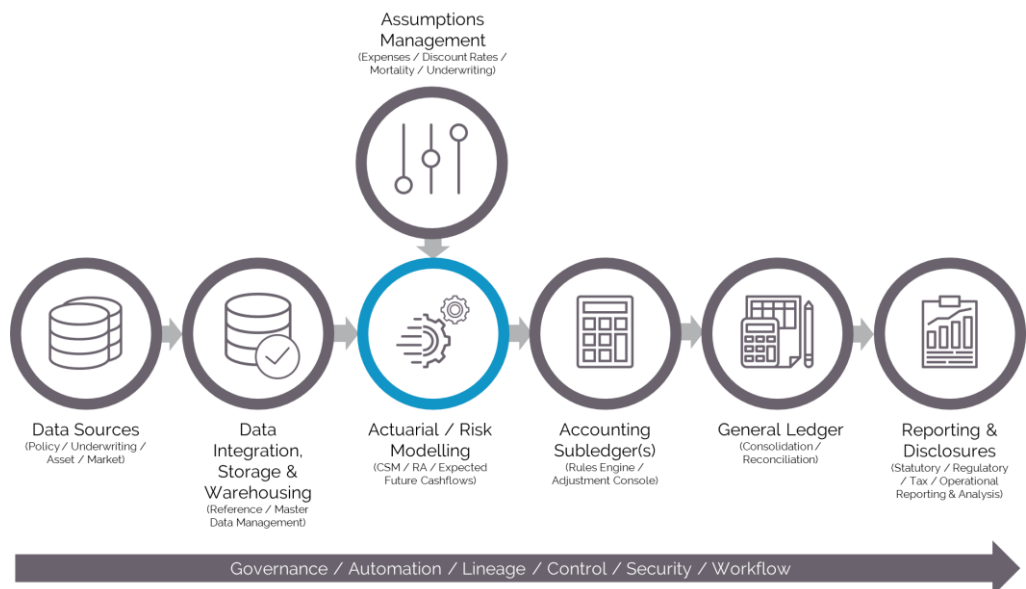


Figure 2 - Traditional Left to Right Solution Design

## Responding to the Challenges with Mo.net

The open, loosely-coupled, service-oriented architecture of the Mo.net platform together with its industry-leading performance and integration features makes Mo.net a genuine alternative to legacy financial modelling platforms when responding to the challenges of IFRS 17. For the first time, the promise of a genuine financial fast close is now possible using a modern, flexible, and fully integrated financial modelling platform.

The table below outlines how the Mo.net platform can respond to some of the specific requirements of IFRS 17.

IFRS 17 Requirement	Mo.net Solution / Support
Storage and retrieval of actual (approved) assumptions used over time	The Mo.net Assumptions Manager provides rigorous control & change management of all assumptions used in operational modelling activities. The Mo.net Assumptions Manager can be used in conjunction with the Mo.net Model Development Studio and / or the Operational Modelling Centre to provide strict governance & approval of all assumptions used in any modelling task at any time.
Access to granular / grouped data sources across a range of disparate / legacy platforms	Best in class database / warehouse integration – inputs & results at granular (policy) or aggregate (cohort) level. Range of connectors for all modern and legacy systems available during model development / testing and operational activities.
Enterprise Integration	The open, loosely-coupled service oriented design of the Mo.net platform provides rich integration with the rest of the existing insurance enterprise, including sub ledgers, general ledgers, BPM and BI tools. Mo.net also allows the power of any actuarial model / calculation to be harnessed from any other enterprise service, unlocking the value of consistent financial modelling across the business.
Multiple basis	Mo.net allows any number of bases to be run in parallel, either in development / testing or operational environments. All bases are strictly controlled & audited providing absolute confidence in the basis used for any particular run.
Controls & governance of models & operational activities	The entire model development & operational journey is strictly controlled with Mo.net Identity Services, Mo.net Source Control Connectors, and industry-leading operational controls over data, assumptions, model and results through the Mo.net Operational Modelling Centre.
Performance	Mo.net provides industry-leading performance out of the box, due to it's modern architecture, small footprint, and native 64 bit models. The platform also provides integration with HPC Server and Azure HPC as well as its own master / worker distribution solution.

## Service Oriented Modelling

While Mo.net can obviously play a key role in the traditional “left to right” financial reporting solution design outlined above, with modest enhancements to existing models to provide CSM and Risk Adjustment calculations, the platform can offer a fundamentally different approach to financial modelling when compared to the first generation, now legacy modelling tools released in the 1990s. While Mo.net models are developed in a similar manner to alternative platforms, albeit using a more accessible / portable language and under much stricter development controls, this is where any similarity ends.

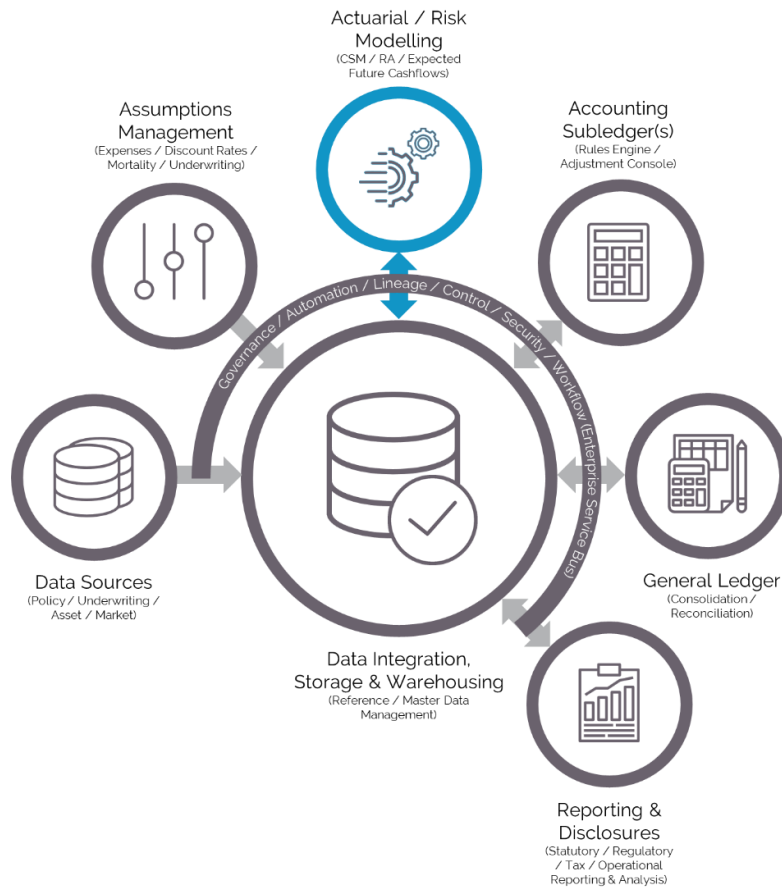


Figure 3 – Service Oriented Outcome Driven Solution Design

Once tested, each Mo.net model is then made available as reusable enterprise services, consumable from any number of client systems – subledgers, general ledgers, business intelligence tools – consuming data & generating results in any format required – and controlled from any device / platform – desktop, web, or mobile.

Furthermore the incredibly modest footprint of Mo.net models compared to the competition means they are inherently very fast without necessarily having to rely on extensive infrastructure to achieve intra-day turnarounds. When near real-time performance is required, Mo.net can easily scale out and up using HPC or cloud paradigms without incurring huge operational costs.

## Further Information

For more information regarding the Mo.net Financial Modelling Platform and to discuss how Mo.net can form part of your IFRS17 solution, please get in touch.



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