Piecing Together

# *Solving the UMR puzzle*

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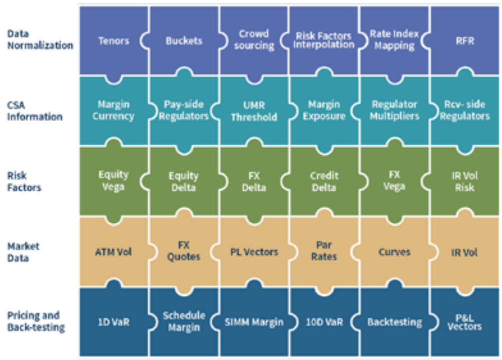
*Sophie Marnhier Foy examines the data challenges faced by firms in calculating ISDA SIMM inputs and warns against shifting the data problem back to the user and incurring additional cost*

## *How do firms coming into scope in phases 5 and 6 move...*

### *From this*


### *To this*




Feedback from participants in the first four Uncleared Margin Rules (UMR) phases suggests that providing the data required for the International Swaps and Derivatives Association (ISDA) standard initial margin model (SIMM) in the correct format is not a straightforward process. Many smaller firms which generally make up phases five and six, are finding it a very real challenge indeed. One reason is the difficulty in pulling together all the data puzzle pieces from the different systems on which they are stored and providing them in the correct format for the ISDA SIMM calculations.

## *How to solve the UMR puzzle*

As Figure 1, overleaf, shows, achieving end to end UMR compliance is a complex, multi-step process. One of the earliest decisions to be made is how to calculate initial margin (IM) and exchange it with counterparties. Here, you can benefit by using a standard methodology in the shape of ISDA's SIMM, which was developed in conjunction with ISDA members and has gained both regulator and market acceptance in jurisdictions around the world. But, the IM generated from this model will only be correct if the inputs to the calculation are sound. The inputs required for SIMM calculations are sensitivities computed across various risk factors. Calculations must be performed in accordance with SIMM best-practice so risk inputs are generated consistently. The risk factors are used for margin calculations, but they also need to be accessed for disputes and validation, to carry out calculations on the fly and for recalculations. Plus, you will need to be able to drill down at trade level or risk factor level.

The results must be produced in the ISDA Common Risk Interchange Format (CRIF) to facilitate dispute management and reconciliation, and the calculated SIMM margin will be subject to backtesting. The size of the challenge should not be underestimated.

## *ISDA SIMM inputs - a threefold challenge*

Why is it proving so difficult to produce the SIMM inputs? Because it involves:

- Generating a new type of risk data (bucketed sensitivities, curvature risk, vega risk), which is typically not available in the current ecosystems of phase five and six firms - either internally (using the firms' systems) or externally (because most valuation providers don't offer the level of risk granularity and sophistication required for ISDA SIMM).
- Converting the ISDA SIMM input data into a standard model and combining risk output at trade level with CSA and regulatory information to produce the CRIF file – in practice a complicated task, since data stored as part of CSA agreements are traditionally managed in different systems (such as pricers, risk tools and collateral management).
- Storing and managing market data - not only to calculate ISDA SIMM inputs, but also to generate backtesting results, which is a regulatory requirement.

When it comes to resolving these challenges, firms should bear the following in mind:

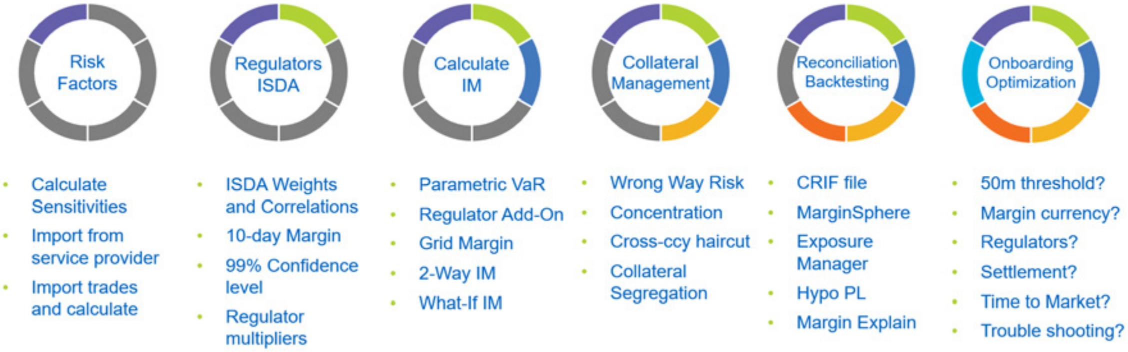
- CRIF file data are inputs for the margin calculation, and their accuracy will be challenged as part of the collateral reconciliation and dispute process. It is not just a matter of populating all the columns of the CRIF file – are you confident that the data is correct?
- Is it a good idea to delegate the complicated process of pricing, optimising and model validation to a third party? What are the regulatory or compliance implications of this?
- If you do delegate, can you be sure that the solution is fully tailored to your firm's portfolio? Will it support all the products in scope?
- If third-party solutions are integrated, how will you update and optimise the margin data throughout the day?

## *Options for implementing ISDA SIMM*

In an ideal world, leveraging a single front-to-back solution that can handle compliance for all aspects of UMR is the most efficient and effective route forward.

Calypso offers such a solution and we have been

### *Figure 1: UMR COMPLIANCE END-TO-END*



working with clients in-scope in the first four phases as well as with firms preparing for the final phases. I include here feedback from our clients as to why they opted for a single solution for end-to-end UMR compliance.

**Data is both challenging and expensive to manage.** Without a front-to-back solution, more time and money will have to be spent transforming data from system to system. This also means engaging IT and architects, complicating the process.

The fidelity of the data must also be assured, including confirmations, acknowledgements and reconciliations that all require configuration, development, and maintenance.

Having multiple systems adds complexity that can be challenging for a project such as UMR.

**A single system supported by a single vendor.** A lot of data and processes are tied to UMR and having them housed within one system, supported by a single vendor, has proved to be extremely helpful for planning and process mapping. Using an vendor ISDA-certified by the is also key, as UMR is a compliance exercise, mandated by the regulators.

**Seamless generation of CRIF file.** There are definite benefits to having full trade details within the solution that will manage UMR requirements. For example, you will be able to manage the CRIF files more easily. With a front-to-back solution, this file is generated seamlessly within the system so there is no need for transformation or communication.

**Unlock additional functionality.** With the trades available, you can unlock other functionality such as 'what-if' IM calculations to help forecast the desk's IM requirements. Threshold exposure calculation and monitoring will also be a simple task. Calypso's clients are finding these tools very helpful to determine, for example, which dealers they should be prioritising in legal negotiations.

They see them as additional benefits beyond the functionality required for collateral and UMR management. We recognise, however, that our world is not always ideal.

While leveraging a single front-to-back system may be the 'holy grail' for UMR, some firms may need to work within the confines of their current IT ecosystems. They may opt for a UMR solution integrated with incumbent front-to-back systems. In the context of a standalone implementation, or for specific asset classes, alternative front office systems might be required to feed the relevant sensitivities. A simple way to source the relevant data will be required, reducing the import scope to risk sensitivities. This scenario is also possible with Calypso.

Alternatively, firms may look to third-party vendors to calculate the portfolio risk sensitivities required as SIMM inputs. This is a major task as trades must be broken down into their individual elements, with the resulting data provided in a standardised format. Not all vendors provide this standardisation within their basic service offering however, pushing the problem back to the firm to resolve, potentially by involving additional providers at extra cost.

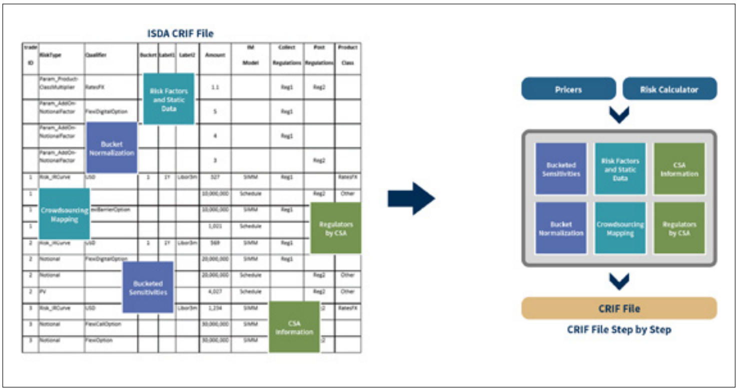
## *Common requirements for end to end UMR compliance*

Firms coming in-scope must handle a mix and match of imported and calculated data. They need a framework that can deal with the detail and complexity of the new UMR regulation. The ideal solution for phase five and six firms should fit seamlessly into their current ecosystem and have a very light footprint in terms of operational risk.

Vendors need to offer them solutions that will not disrupt their current end-to-end process, relying on simple building blocks, using standard data formats, and offering data normalisation tools to streamline the integration process. To return to our opening premise, they need to help firms move from fragmented puzzle pieces to an ordered solution.

## *Five steps to achieving a successful and efficient UMR implementation*

### 1. Break down CRIF file into logical blocks.




### 2. Define best way to generate accurate risk factors, either by:

- Leveraging the risk and valuation features of the incumbent front office system, which may not have been activated in the implementation to date.
- Using a third-party provider to generate the required risk factor inputs for selected asset classes. This might be the best approach if there is a legacy front office system, or it can be the first step in an implementation to meet the compliance deadline. The risk calculation can be rolled out asset class by asset class.
- Considering the schedule margin for exotic and complex products if trade volume does not justify investing in a sensitivity calculation. This is fully compliant and a pragmatic approach.

### 3. Normalise incoming data inputs to adjust to ISDA format

Data imported from a front office system are not directly compatible with the ISDA format, ie tenors, buckets and labels. Data normalisation for ISDA SIMM format compliance should be done by the margin solution, not pushed back to each source system. Simple processes like linear interpolation of risk metrics and data mapping will simplify the requirements for the upstream systems.

### 4. Separate the CSA elements from the risk factors

The most efficient way to generate all the ISDA SIMM ingredients is to separate the CSA-related inputs (margin model, margin currency, regulators) from the risk factors, i.e. the risk sensitivities calculated by product class. The regulatory parameters should also be managed separately, and not required from the Front Office system.

### 5. Use a single system for risk inputs, margin calculation and backtesting

End-to-end UMR compliance requires a strong analytics platform, which will be used every step of the way for risk factor and margin calculations, as well as backtesting.

Once compliance is achieved, ‘what-if’ optimisations tools can easily be added to an end to end UMR solution.

## *In conclusion*

Achieving successful UMR compliance relies on having access to solutions that reduce the complexity of the process in a partnership between vendors and clients which goes beyond vendors simply requiring pre-packaged data to be provided in a mandatory format.

If our experience to date has taught us anything, it is to advise starting with a building blocks approach, where additional components can be added as new requirements emerge. In this way, we can offer clients a complete platform, capable of evolving in line with needs.

Only 70 firms are UMR-compliant today, but more than 1,100 are preparing. The recent compliance date extension to September 2022 (group 5) and September 2023 (group 6) could give these firms the extra time they need to consider a more strategic approach.

Our advice is to look at the bigger picture; to constantly keep front of mind how to convert a painful compliance exercise into an opportunity to be more efficient, to reduce risk, increase optimisation and improve profitability.