MODEL-DRIVEN DELIVERY

INTELLIGENT AGILE SOLUTIONS FOR SYSTEMATIC DERIVATIVE REPORTING

CAPCO

White Paper

Sustainable excellence in an ever-changing landscape

The ever-changing landscape of regulatory compliance challenges financial institutions, globally. In an effort to enhance transparency in the over-the-counter (OTC) derivatives market, promote financial stability and support the detection and prevention of market abuse, the world's financial regulators began to introduce an ongoing series of regulatory reforms, of which many require accurate and timely reporting of transactions in OTC markets.

Compliance with these requirements presents technological challenges to financial institutions; they must identify, capture, collate and format derivative transaction data for reporting. Global market participants face further challenges in dealing with the requirements of multiple jurisdictions, each with its own regulators and evolving requirements and punitive consequences for failing to meet demands.

These conditions require global market participants to have a flexible, scalable and efficient derivative reporting solution. In this paper, we examine the advancements in process modelling and best practices in agile system delivery in creating an industry-leading solution that minimizes the exposure of its adopter to both financial loss and reputational risk.

Designing the solution

The requirements of regulatory reporting initiatives are often far clearer to system designers than, say, enhancements to a trade processing system: The expected outcome – what data should be reported, how it should be reported and with what frequency – leaves little room for interpretation or creative license.

A reporting engine, at its core, processes data inputs (trade information) versus a set of business rules (reporting logic built from regulatory requirements), with predefined expected outcomes (reports that successfully meet said requirements). Requirements that fall within these parameters lend themselves very well to a **model-driven delivery approach**.

What is model-driven delivery?

Model-driven delivery is a front-to-back framework for agile, highly automated software delivery, driven by a detailed technical model of system behavior.

Many reporting compliance failures result from poor software delivery. Poorly specified requirements, low coverage of use cases during testing and lack of understanding of how data inputs map to report outputs result in defects and thus under reporting or, indeed, over reporting of derivative transactions.

Model-driven delivery aims to mitigate these and other risks inherent in the software delivery life cycle (SDLC). Process modeling toolsets facilitate the capturing of current system behavior in an annotated visual representation of the full scope of use cases within that system, that can be systematically analyzed and manipulated to produce **accurate impact assessment** and **high-coverage test suites**.

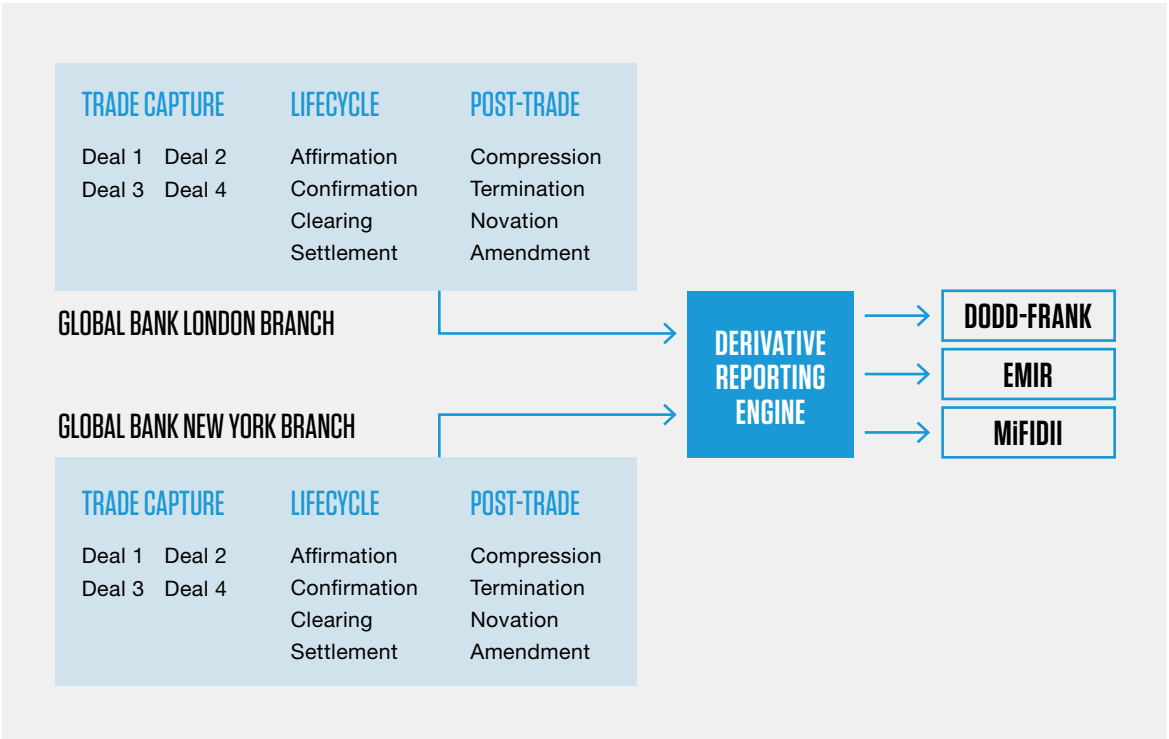

Figure 1. A robust derivative reporting engine must identify, collate and format transactional data from numerous operational entities to produce reporting that complies with the demands of regulations in multiple regimes

Clear functional requirements

Often, the owners of reporting software will work with project managers from several product areas, and differences in terminology, documentation or the effectiveness of project personnel can cause software quality to suffer as business requirements fail to translate into fully specified functional requirements.

Model-driven delivery produces standardized, fully specified system requirements that detail:

- System components affected by change
- Data fields utilized (existing and new)
- Requirements to amend existing fields and associated impact on existing reporting

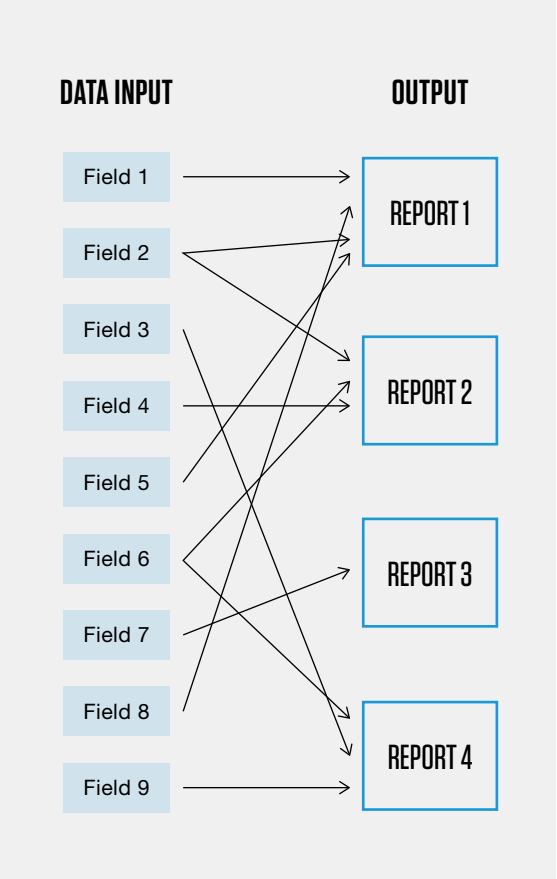

Figure 2. Lack of clarity of how data inputs map to reporting outputs leads to poor impact assessment when change is introduced

As regulators have created, amended and updated regulation on derivative reporting, software designers have created their systematic responses in agile, iterative environments. The sheer volume and complexity of change in recent years has left organizations unable to reliably document or understand current system behavior. This lack of clarity results in post-release incidents, where data inputs have been altered without full understanding of their effect on system outputs; in other words, changing the engine to enhance one report leads to an unexpected defect in another.

Model-driven delivery provides inherent transparency of use cases. Data inputs are clearly mapped to their reporting outputs, giving an immediate understanding of the impact of changing any existing reportable field.

When the functional specification from a new reporting requirement has been derived from the model, it will detail a list of data inputs that are required. If the requirement includes the need to change the characteristics of an existing reported field, a list of reports that consume this field can immediately be produced. Our framework ensures that these reports are prioritized during our regression cycle (see next section for further detail).

New reporting fields and their applications in submitted reports are automatically updated into our use case model with every production release, ensuring a complete, up-to-date and, most importantly, transparent understanding of expected behavior. This allows for the creation of a robust, automatable testing strategy.

Robust automated test suite

Our model has provided transparency and understanding of our system's current state; if we understand the full scope of our system, we can create a test harness that uses predefined input data to generate a full suite of reports that can be systematically compared to stored "happy path" reports that verify expected behavior.

Alongside a prepopulated test data bed and predefined exit criteria, our modeling toolset produces automated test scripts that can be tailored to fit many existing automation frameworks.

A fully automated model-derived regression suite allows the flexibility of an agile, rapid software development cycle without the increased risk of software defects that traditionally follows.

The Capco advantage

For further information on Capco's innovative bespoke solutions for the operational, cultural and technological challenges of derivative transaction reporting, contact our thought leaders in regulatory risk, compliance and model-driven delivery:

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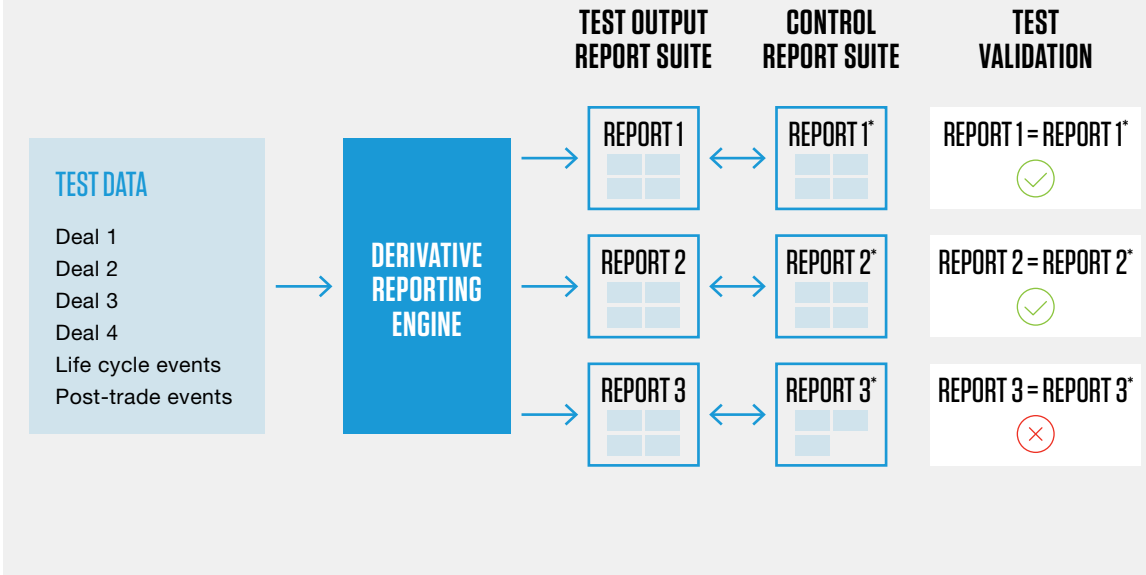

Figure 3. Predefined inputs to a fully-documented reporting engine produce entirely predictable regression outcomes that can be systematically compared with expected behavior

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ABOUT CAPCO

Capco, an FIS™ company, is a global management consultancy with a focus in financial services including banking and payments, capital markets, and wealth and asset management. We combine innovative thinking with unrivalled industry knowledge to deliver business consulting, digital, technology and transformational services. Our collaborative and efficient approach helps clients reduce costs, manage risk and regulatory change while increasing revenues. Visit us at www.capco.com and follow us on Twitter @Capco.

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