

# Planning a Basel III Credit Risk Initiative

**How to Achieve Return on Investment**

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# 1 Introduction

**Progressive banks will use Basel III as a catalyst for change and to generate a return on the investment.**

For most large financial institutions, developing an enterprise risk management capability is a regulatory imperative—whether driven by Basel II or the new Basel III requirements. The most successful organisations are also realising the competitive advantages of aggregating risk information and developing risk models that promote a true “risk versus return” approach:

- More profitable and effective pricing
- More efficient capital allocation
- Cost savings through the retirement of isolated databases and manual processes
- Reduced dependency and reliance on legacy systems and individual contributors

Basel III brings new standards around capital, liquidity and leverage. In addition there are significant changes related to credit risk. Measures to reduce credit risk include higher Risk Weighted Assets (RWA), the new Credit Value Adjustment (CVA) charge, identification of Wrong Way Risk and upgrading stress tests. These changes are intended to strengthen the banking sector’s ability to survive significant downturns by managing risk, understanding exposure and minimizing the impact of negative events.

Basel III will be costly for banks due to the capital required to be retained and the investment needed to implement changes. The complexity and number of IT systems and data stores, coupled with multiple business processes, make the task of architecting the Basel III changes a significant challenge.

Banks are required by the regulators to measure and report on the various aspects of Basel III. However, progressive and forward-thinking banks will be using Basel III for competitive advantage—a catalyst to review and upgrade current practices and processes to maximise a return on investment and ensure reported figures are truly correct, understood and trades optimised. The key areas for focus whilst implementing the requirements are: data management; modelling; predictive analytics; real-time risk monitoring; and application architecture and process design.

## 2 Banks need a strong data foundation

“Consolidated platforms and data warehouses that employ common taxonomies permit rapid and relatively seamless data transfer, greatly facilitating a firm-wide view of risk.”

Senior Supervisors Group (SSG) report, December 2010.

The first step in managing data is to build a new repository or enhance an existing one for use by finance, risk and regulatory departments. The repository can surpass the immediate needs of Basel III by:

- Addressing the wider credit risk needs such as netting, legal hierarchies and economic capital;
- Serving the needs of all risk types including market and liquidity;
- Meeting the need for historical time-series data;
- Sourcing data real-time, not end of day;
- Ensuring data is sourced from strategic golden repositories as appropriate;
- Getting data from the source of capture not a second or third hand warehouse; and
- Using common business driven taxonomies.

Next, banks must put in place a data quality strategy. Operationalising data quality—implementing and governing a data quality strategy across the enterprise—continues to be a challenge for many banks. Data quality is a necessity for accurate reported figures and it is also a regulatory requirement.

### Exhibit 1: Three key criteria are used to determine data quality

1.	<b>Appropriateness</b>	Data is considered to be <b>appropriate</b> if it is suitable for the intended purpose (e.g. the valuation of financial instruments, setting of assumptions) and relevant to the portfolio of risks being analysed (i.e. directly relates to the underlying risk drivers).
2.	<b>Completeness</b>	Data is considered to be <b>complete</b> if it allows for the recognition of all the main homogeneous risk groups. Thus, data is considered to be complete if it has sufficient granularity to allow for the identification of trends and the full understanding of the behaviour of the underlying risks.
3.	<b>Accuracy</b>	Data is considered to be <b>accurate</b> if it is free from material mistakes, errors and omissions. Most of these will be caused by human error or IT failures.

Regulators require that banks demonstrate data quality issues have been addressed, such as:

- Missing and incorrect data
- Untrustworthy data that has not been regularly maintained or has no appropriate overrides
- No context for data. E.g., is the Moody's rating the long or short term view?
- No owner identified for the data
- Lack of traceability, including unknown or unclear source, data chain and data modifications

### 3 A new focus on models and calculations is required to reduce Basel III charges

**Standard methods of exposure and internal rating calculation must be rapidly migrated to advanced calculation methods in order to avoid costly regulatory charges from Basel III.**

**Common IT platforms, data repositories, services and governance are key for the on-going optimisation of models.**

Considerable regulatory charge savings can be made through a focused effort to swiftly migrate products to advanced calculation methods. Most but not all banks have migrated their banking products to advanced methods of exposure and internal rating calculation. Basel III capital base restructuring, RWA changes and the new CVA charge will result in significantly increased regulatory charges.

Existing models—pricing, exposure, internal rating or stress test related—have grown in banks over the last decade, usually in an ungoverned and siloed manner. Visibility into models—whether it is appropriate, uses the correct data sources, or performs the right function—is often low. Additionally, many banks implement models in a tactical manner which can result in dependencies and operational risks.

Regulators are aware of such practices and increasingly concerned whether existing models comply with requirements. This concern has led to regulatory requirements around the governance and understanding of advanced model calculations.

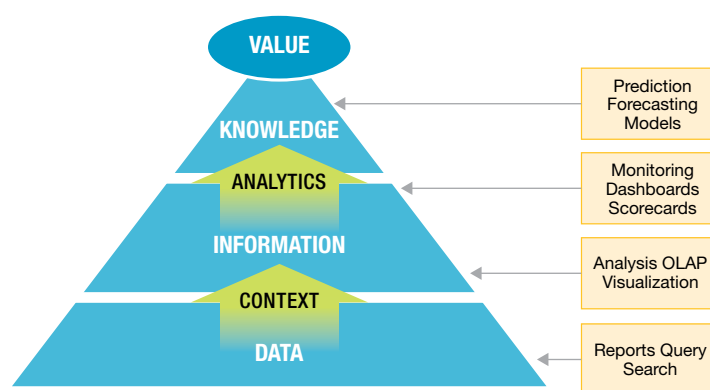
Model governance, including an audit of appropriateness of existing models, must be key on a bank's Basel III implementation agenda. Models that have become out-of-date can be tuned, resulting in the optimisation of regulatory charges.

Furthermore, the siloed approach of model development means the bank cannot leverage any common resources and services that already exist—such as technology platforms, data, data quality, model libraries and governance. A strategic approach to models that involves centralisation, shared use of resources and common governance across all risk types can help a bank remove duplication and ensure transparency. Updated models can use common data repositories, facilitate the shared scenarios, and reduce costs. A bank should strive to implement models in a structured, repeatable manner so knowledge, workflow and responsibilities for each model can be captured and audited.

## 4 Predictive analysis and real-time monitoring is a competitive imperative

Competitive advantages among banks have dissipated in recent years, but analytics-driven processes have remained a point of differentiation. Analytics have been used to slice and dice historical data to analyse past performance and forecast or predict future events.

**Exhibit 2: Reactive versus proactive decision making**



Standard methods of exposure and internal rating calculation must be rapidly migrated to advance calculation methods in order to avoid costly regulatory charges from Basel III.

The use of real-time data can be used to allow front office traders to accurately predict key end-of-day regulatory charges, counterparty and product mix optimisation so risk officers can proactively monitor existing exposures.

Banks can take analytical techniques one stage further at pre-deal stage using real-time data. Front office traders will be able to accurately predict regulatory charges on given counterparty and product mixes, being able to ensure the optimal combination has been chosen. Furthermore, trades that potentially exhibit wrong way risk or where there are known data issues can be avoided. Models must be developed using real-time data and in such an infrastructure that they can be used in a front office pre-deal predictive capacity.

Today's financial services landscape is a dynamic, fast moving industry where small market data changes and downgrades can have a large impact on the value of a portfolio. Reactive, end-of-day approaches to monitoring such events are often inadequate to capture major negative impacting events. The ability to monitor and even predict such events as they occur and take immediate action is undoubtedly a key advantage.

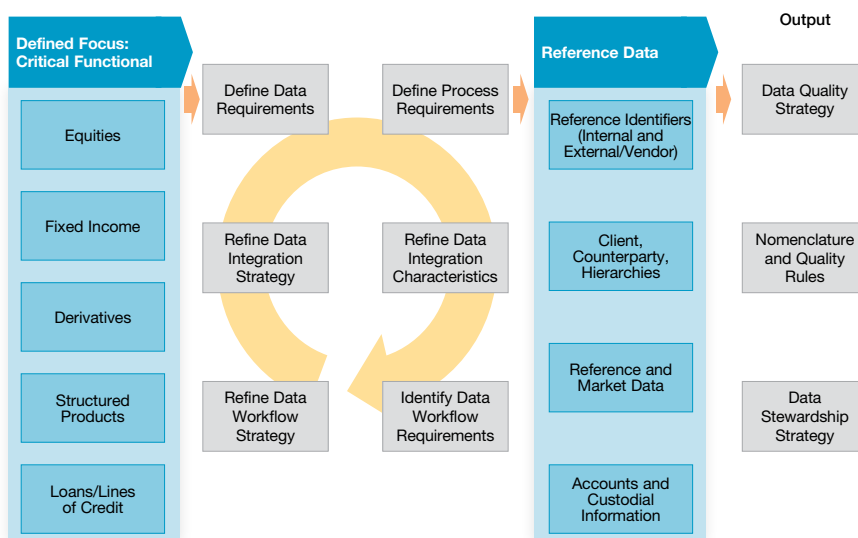
### **Technologies now exist to allow real-time feeds and rapid model calculations**

Using state-of-the-art dashboarding is a vital way to monitor trouble spots when they occur. Banks must not only execute pre-deal analytics for optimisation but also continue this process in their existing portfolios. Technologies exist that allow seamless real-time integration across various information systems. Due to advances in processing power, model calculations that were previously very time intensive can now be performed in seconds.

## 5 Basel III initiatives must address both business and technical needs

Basel III will require significant changes from both a technical and business perspective. Bank heads have the immense task of designing the new architecture. Forward thinking banks will be agnostic of their current environment in their design vision of a Basel III implementation. Their vision will include components that can provide competitive advantage and ROI including common data repositories, data quality, model governance and real-time predictive and monitoring capabilities. It will also include the use of new technologies that allow real-time feeds and the ability to split second model calculations.

**Exhibit 3: Process improvements, data transformation, and operations workflow improvements**



The vision must be accompanied by a roadmap detailing the journey to not only deliver the mandatory Basel III requirements but also the value ROI enablers and the migration of existing risk and regulatory components to the new architecture. Capgemini helps financial institutions create a roadmap to a new architecture including:

- A single book and organizational hierarchy which permits risk and finance integration;
- A stress test framework that includes a common infrastructure to automate stress testing and support multi-factor and complex models;
- Risk weighted asset optimization to eliminate operational risk, identify data breaks, track and audit changes, and improve reporting and analysis;
- A securities data maturity framework which focuses on the drivers behind the downstream business processes as the key alignment principles for managing data content and distribution rules.

## 6 Putting it all together

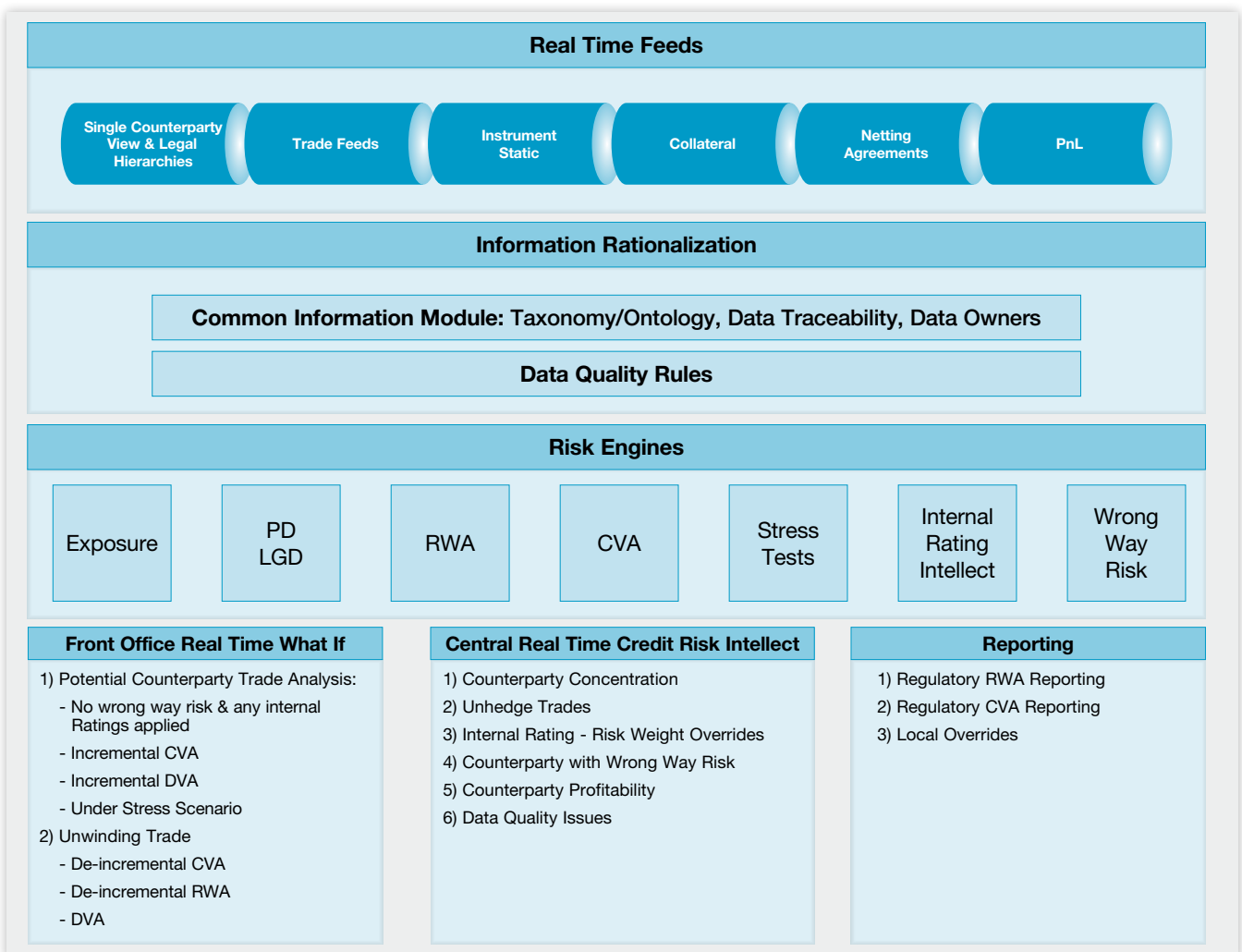
A Basel III implementation should not be focused solely on meeting the regulators measurement and reporting requirements. Rather, it provides a chance for banks to optimise calculations and processes using:

- A common risk and regulatory real-time data repository using data directly from capture sources;
- A full data quality and governance programme supported by business driven product taxonomies;
- Real-time, pre-deal predictive analytics;
- A centralised model;
- Real-time, predictive monitoring of exiting positions;
- A vision of a new landscape that allows true optimisation and use of quality data;
- Technologies that enable the new landscape vision;
- A roadmap that drives the vision

Banks adopting such an approach will be on track for achieving return on investment, as well as gaining a significant competitive advantage.



**Exhibit 4: Real-time optimized predictive Basel III risk transformation**



# 7 In Practice

In partnership with leading technology vendors, Capgemini has developed a number of solutions to help banks and capital markets firms meet regulatory challenges. Below we share our experiences helping financial services clients across the globe build the processes and systems to address the Basel challenge. Capgemini has a proven track record of investing in the data, risk, and technology expertise to support Basel—today and tomorrow.

## 7.1. Basel II risk management system for a global bank

Our client’s risk management system comprised of different applications linked together through multiple system interfaces, intricate business logics and technical tools. Capgemini collaborated with the client to formalize the Basel II process documentation approach.

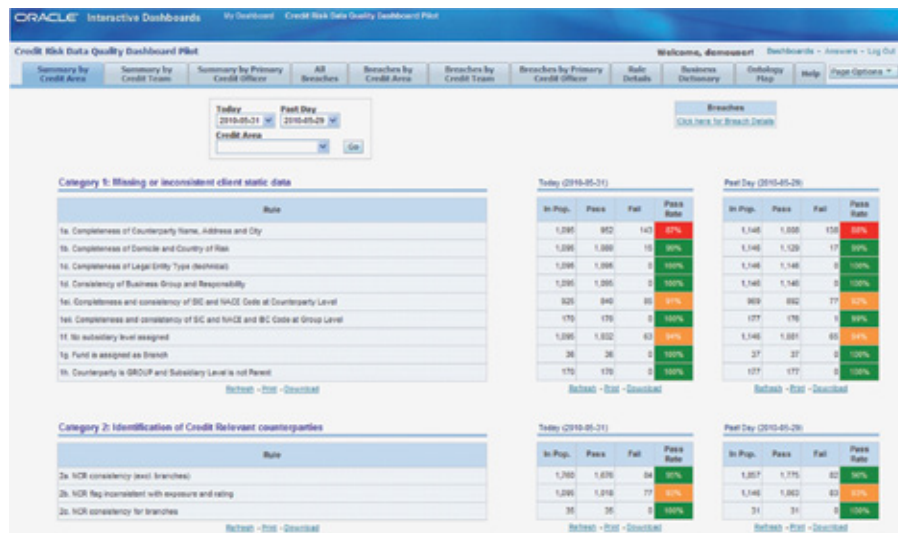
**The Result:** We helped our client accelerate Basel II outputs, underlying processes and business rules for the risk management system among the business users.

## 7.2. Basel II compliance program

Our client sought guidance on the final capital requirements calculation and wanted to implement a risk weighted assets calculator.

**The Result:** Our client achieved improved business processes through the incorporation of key Basel II directives and significantly improved risk management practices.

**Exhibit 5: Dashboards provide the “user view” into the quality of a data population. Organizing dashboards according to quality measures, process steps and business rules usually provides the best view for subsequent remediation efforts.**



### 7.3. Basel II reporting solution

Our client wanted to develop an IT solution by defining data requirements, implementing a data warehouse and embedding the Basel II reporting process with local country units. Capgemini teams partnered with our client to set up, manage, and deploy the Basel II program.

**The Result:** Capgemini helped our client implement a Basel II business intelligence solution with a customized risk weighted assets calculator and centralized data warehouse used for data collection, validation, and integration. We increased the Basel II commitment and knowledge of global and local staff across the organization.

## About the Author

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