

## Aligned Risk Technology Reporting System

### Client

A top ten global investment bank

### Business Area

Global credit risk

### Asset Classes

Equities, fixed income, derivatives

### Technology Set

Oracle, SAS, Data Warehousing (DWH), ETL, Microstrategy, J2EE, EJB, Struts, GWT, Spring, Hibernate

### Integration

20+ data providers in the bank (credits, ratings, counterparties etc.)

### User Profile

Global Credit Risk Department, 100+ users

### Geography

Global

### Relationships Status

Ongoing ODC, T&M

### Services Provided

Full cycle: development, testing, maintenance, quarterly releases, and production support

### Team Size

17+

### Duration

2+years

### Summary

Develop an integrated platform for credit risk calculations that comply with regulatory reporting requirements.

### Business Challenge

Over the past few years, the bank's credit-related data warehouse (DWH) had begun to deteriorate in both performance and capacity as data volume increased and numerous regulatory enhancements were applied. The existing software development vendor was unable to meet the business and technical needs for the system, which performed the business-critical functions of credit risk calculation and disclosure reporting to comply with KWG (Kreditwesengesetz, Banking Act of the Federal Republic of Germany) and Basel II requirements. The bank's main objectives to upgrade the credit data warehouse were:

- Reduce costs by streamlining calculation and reporting functions, removing redundant and segregated processes, and optimizing the workflow.
- Implement all revisions needed for regulatory compliance with risk disclosure reporting.
- Improve performance and accuracy by integrating functional processes and reducing the processing time.
- Improve regulatory compliance by increasing transparency and timeliness in reporting.
- Restore system availability and reliability.

### Luxoft Delivered Solution

Luxoft was selected to replace the bank's software development vendor, taking over all the aspects of the project including development, maintenance, and on-call support. To address the critical requirements of cost reduction, performance, accuracy, and timeliness; the Luxoft team developed a framework for multiple instances of a single code base. The main components of the system include:

- Oracle® database  
The data warehouse holds detailed information from operational systems on the status of contracts and products; the results of Monte Carlo simulation for the probability of default for each contract; and contractor information such as ratings from internal and international agencies. The data warehouse is organized relationally by contract or product and supports daily traffic of about 130 gigabytes with a total storage capacity of more than 15 terabytes.
- Base SAS® for risk calculation and reporting  
The Risk Calculator analyzes products, countries, counterparties, netting of contracts, and the distribution of provision between contracts to assess risk. Because regulatory requirements can vary, all calculation processes operate under a set of customizable business rules and risk indices are computed separately for each Basel II approach: Standard, Foundation and Advanced. The

aggregated results and calculated risk indicators (including economic capital and its distribution between contracts) are star-ranked and stored to support reporting.

- J2EE enterprise platform for data maintenance web applications  
Web-based applications provide functionality to correct invalid data or to adjust reporting input data. Because the data is relationally organized by contract or product, corrections are quickly applied without having to recalculate the total volume of data.
- MicroStrategy® business intelligence report generation and delivery services

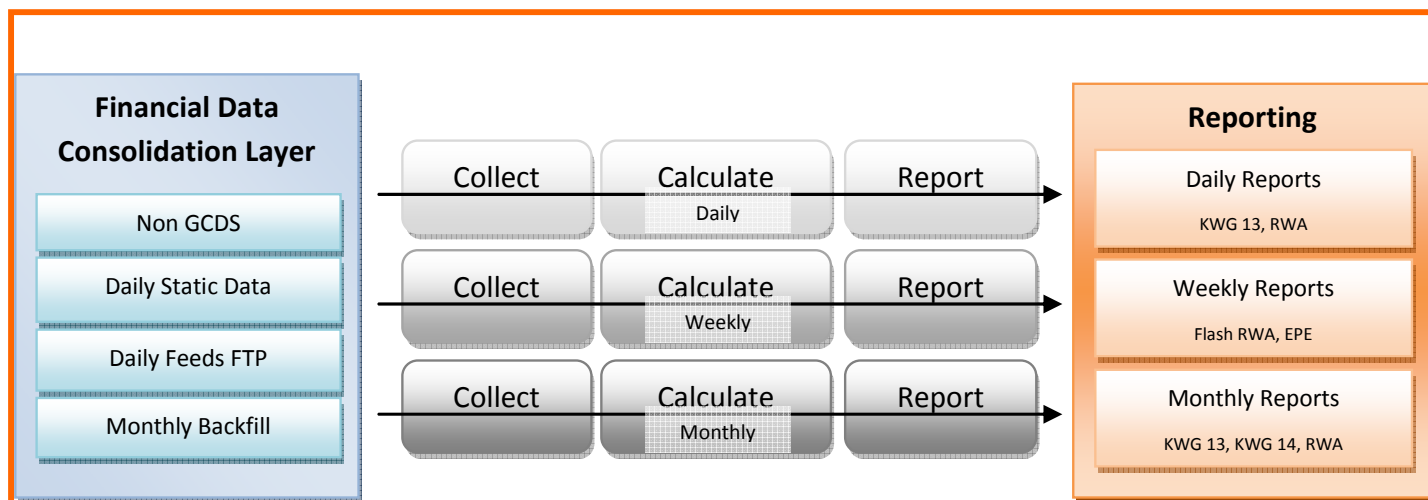


Figure 1: Risk Reporting Strategic Approach—One Code Base, Multiple Instances

## Benefits

The Luxoft team developed a communication plan with the bank's Global Credit Risk Reporting department that allowed them to acquire the knowledge base they needed to quickly restore system stability and improve performance. In addition, system enhancements increased significantly over the previous year. Luxoft's solutions provided the bank with the following benefits:

- Risk calculation performance increased by 33%
- The time needed to generate regulatory reports was reduced from hours to seconds
- Operational and future development costs were greatly reduced with the improved system framework
- Full compliance with KWG and Basel II regulations as a result of system enhancements and innovations developed by Luxoft

## Customer Feedback

Detailed feedback is available on request.