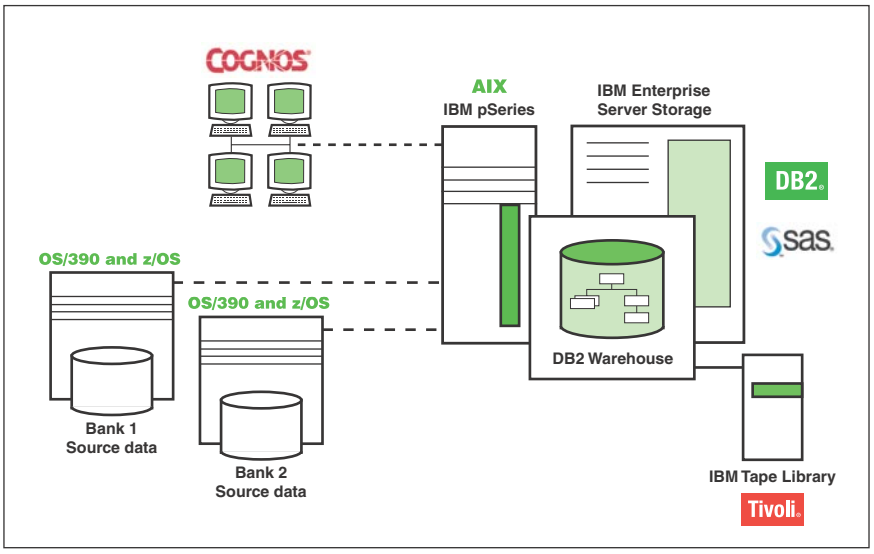
IBM Case Study
Banking

DB2 Information Management Software

French bank turns to IBM for Basel II technology and expertise.

Overview

- ***Challenge***
  Improve risk management across all member institutions and meet deadline for compliance with Basel II regulations
- ***Why IBM?***
  Complete solution including database, information mining and integration; financial industry expertise and experience of IBM Premier Business Partner Computer Sciences Corporation
- ***Solution***
  Data warehousing, business intelligence and information integration solution based on IBM software and hardware
- ***Key Benefits***
  Enhanced risk management and increased efficiency of data collection for Basel II-required data



IBM delivered an integrated solution enabling the Bank to comply with Basel II.

The business of banking

Banking has always been a challenging business. The level of exposure financial institutions bear on a daily basis is—and always has been—considerable. People, productivity, technology, availability of capital, delivery channels, theft, terrorism, market shifts, war and a host of other factors have figured into the depth and complexity of this industry. The only way to mitigate the problem of risk has been the imposition of stringent regulations.

The Basel Committee of the Bank of International Settlements did precisely that in the late 1980s. Despite the fact that the Committee had no international or regulatory authority, more than 100 countries ultimately adopted the rules it designed to prevent banks from taking on the excessive credit risks that had adversely impacted and perhaps even helped to fuel past financial crises.

IBM provided the Bank with a best-of-breed solution for crucial data management functionality.

The establishment of The Basel Committee's rules led many financial institutions to the realization that the compliance requirements for data collection and analysis would become more complex and more involved than ever before. Working within the rules would mean having information technology (IT) systems that are sophisticated enough to keep pace not only with current regulations, but also to grow and scale with new requirements that might evolve over time. Best-of-breed systems would have to be created to supplement those systems that already existed within the banks for the purpose of handling daily operations. Basel II would add new dimensions to the banking landscape.

The benefits of Basel II

Although Basel II established the need for banks to implement new technology and often necessitates the allocation of additional resources, the imposition of well-designed Basel II solutions also can afford significant benefits to a financial institution. For one major banking institution in France, an IBM solution implemented by the technology consulting firm and Premier IBM Business Partner Computer Sciences Corporation (CSC) will deliver positive value in many areas over time.

For example, the Bank previously had numerous methods for measuring risk among its member institutions. The new solution will enable compliance with Basel II requirements while using one mechanism to measure risk. This will improve consistency and allow bank officers to compare risk evaluations between local banks.

The Basel II solution will help the Bank gain crucial data management functionality for:

- *Locating data in operational systems spread across the enterprise, and in some cases incorporating it with third party data.*
- *Identifying the data required to drive the risk calculations and support Basel II reporting and analysis.*
- *Understanding the structure of the data in existing operational systems.*
- *Extracting and transforming data from operational systems to provide a consistent structure for the data warehouse environment.*
- *Cleansing the data to achieve a consistent and complete view of information needed for risk calculations, reporting and analysis.*

The Bank's new best-of-breed technology solution also will provide a database management system that stores the historical view of data, scales and handles large volumes of information as needed and distributes data in a format that enables analysis and reporting functions. Risk calculation engines and analytical tools in the IBM solution provide fast and reliable access to data. These features also store risk calculation and analytical results together with the original data for subsequent reporting and optimization.

The new system enables users to produce all regulatory reports in a format that can be viewed and verified to support Pillars 2 and 3 (the supervisory review process and the enhancement of market discipline through detailed public disclosure) of the Basel II Accord. Additionally, online analytical capabilities are included to study the breakdown of the totals in the regulatory reports. Data mining capabilities help users detect statistical patterns, predict behavior (i.e., Probability of Default) and identify anomalies in the data.

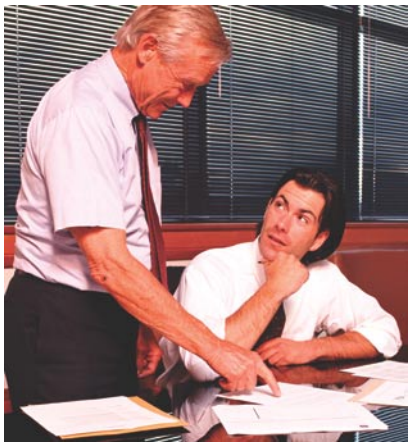
A daunting mission

The Bank's Basel II project was a major undertaking for the combined bank and CSC team. The collective team knew that identifying the technical challenges involved in a large integration and development effort and facing those challenges required answering a number of critical questions. What was the most effective infrastructure design? What applications would best facilitate rapid compliance? How flexible would the new system need to be? What resources would be required?

The Bank ranks sixth in France in total assets and has one-third of the finance market for small and medium-sized businesses. For the Bank, the Basel II project would be even more involved than most. Surprisingly, the reason is history. In the early 1900s, the local banks that now comprise this Bank were formed as member-owned cooperatives to finance small and medium businesses. Today, the more than 20 retail banks and 2,500 branches run their operations on six different IT platforms. Because the various entities had been locally managed for nearly 90 years, it was unlikely that the decentralized business structure would be eliminated. It also was clear that migrating every local bank to a common platform was not feasible. The precedent set by decades of history and years of disparate technology implementations would add complexity to an already difficult project.

Additionally, the team realized that the IT aspects of the initiative were beyond the capacity and scope of the Bank's internal resources. Even the business aspects of the project would require more coordination and planning than was typical for day-to-day business operations.

The Bank decided to enhance its banking expertise with CSC, a firm known for its finance industry knowledge and its project management expertise. The new combined team would implement IBM best-of-breed technology at the Bank's Paris location. By combining the strengths of the team and the capabilities delivered by IBM's leading-edge technology, the Bank ensured that the project would progress without any negative impact on the daily needs of users. The size and scope of the effort is best exemplified by the fact that the joint project team, which included scores of internal IT and banking experts and consultants from CSC, would occupy a sizeable portion of the Bank's Paris headquarters.



Bank employees were able to continue supporting important financial services during the implementation of IBM DB2® Universal Database™.

Nuances and project needs

The short-term goal for many banks striving to comply with Basel II is to keep pace with day-to-day operations while adapting business processes and IT systems to support regulatory compliance. A longer term goal is to aggregate three to five years of historical data in order to be ready to comply when the Basel II rules formally go into effect in 2006. The former goal means careful planning, which includes choosing an effective team approach that capitalizes on the combination of available and attainable resources and best-of-breed technology. The latter requires large systems integration and development projects. The bank's strategy followed a similar outline.

By default, Basel II rules can require the implementation of entirely new applications be implemented. While the calculation of capital needs is similar for most banks, the ways in which banks use their capital differs. Most commercially available solutions designed to address Basel II only cover a very small part of the new requirements, rather than the rules in their entirety. As a result, the Bank also identified the need to develop new applications that would address business strategies particular to their institution.

This communication is supported in different ways, depending upon whether it is real-time (e.g., to gain a new client or a new contract) or not (e.g., determine the risk profile for a complete set of files). The technology is therefore spread from Web services to large batch replications. Every bank is responsible for its data, its data quality and its business processes, while the Bank is in charge of all the calculation engines, global architectures, global data structures and global scheduling of all the operations (notations and ratio calculation), as well as legal reporting.

The Bank's team also determined that, although each local entity would retain its particular technology platform, the Basel II architecture could be centralized. In order to do that, all of the disparate systems in the localities would ultimately have the ability to communicate with one system at the headquarters location. The result would be that locally-owned banks within the Bank would continue to manage daily operations on their existing legacy systems. However, bank officers in those respective locations would log new customers into the central system in order to enter the risk data required by the Basel II regulations.

One aspect of the project that frequently affected the bank's team was the fact that the Basel Committee itself has not yet completed many aspects of its regulatory structure. Changes to the rules are published as often as every month. The modifications almost always affect information technology. When changes occur, the development plan for the project typically must be revised. Sometimes plans and milestones must be reconfigured and the future of the project must change. For example, which new applications will be needed or which completed development stages need to be revamped.

The history of the Basel Accords

When did the regulation process begin? It was in the 1980s when the Basel Committee on Banking first sought to do something about the problem of risk in the industry by implementing uniform regulations. The Basel Accord, established by the Committee in 1988, is a framework that effectively measures banks' levels of risk. When the Accord initially was designed, the riskiest part of a financial institution's business was making loans. Under the Basel Accord framework, a minimum capital standard of eight percent was adopted by complying banks.

Then in the 1990s, another string of financial crises and scandals surfaced—the Bank of Credit and Commerce International scandal, the Asian currency crisis and the bankruptcy of Baring Brothers among them. Many of these events could not be attributed to credit risk, but rather to the development of new financial instruments that had exposed financial institutions to other kinds of risk. This necessitated additional action from the Basel Committee, and a new framework known as the New Capital Adequacy Framework, or Basel II was developed. Basel II better aligns risk and capital requirements than the previous regulations did.

Basel II is a more complex set of financial regulations than any other to date. This framework makes substantial changes to the way banks are capitalized and large-scale changes to the treatment of credit risk. The original accord only covered credit and market risk. The treatment of market risk was amended in 1996. The new accord also adds operational risk—"the risk of losses resulting from inadequate or failed internal processes, people and systems, or external events."

Thanks to regulatory requirements, banks must now measure their operational risk, and use it to calculate their capital ratio. Basel II has changed the industry by requiring that operational risk be added to this measure and that other risks should be measured more accurately. However, the ratio is still calculated by dividing the amount of capital a bank has available by a measure of the risks the bank faces.

IBM brings technology expertise to the world of banking

Banks face stringent deadlines if they wish to be compliant with the rules set forth by the Basel Committee. The data collection and storage component of the Basel II data management infrastructure must be in place by 2004 in order to ensure that a minimum of three years of historical data is in existence by 2006.

IBM offers business intelligence solutions that allow banks to implement the necessary infrastructure to address Basel II requirements quickly and cost effectively. These software components can include:

- *IBM DB2 Universal Database*
- *IBM DB2 OLAP Server™*
- *IBM DB2 Cube Views™*
- *IBM DB2 Intelligent Miner™*
- *IBM WebSphere® Information Integrator*
- *IBM WebSphere Business Integrator*
- *IBM @server® pSeries®, zSeries® and xSeries®*
- *IBM storage management solutions*

About CSC

Computer Sciences Corporation is a leading provider of information technology services to commercial and government markets worldwide. CSC is a leading global information technology (IT) services company. CSC's mission is to provide customers in industry and government with solutions crafted to meet their specific challenges and enable them to profit from the advanced use of technology. CSC has helped its clients manage and profit from every major wave of change in IT since its formation in 1959. CSC provides innovative solutions for customers around the world by applying leading technologies and CSC's own advanced capabilities. These include systems design and integration, IT and business process outsourcing, applications software development, Web and application hosting, and management consulting. With approximately 90,000 employees worldwide, the company had revenues of $14.8 billion for the 12 months ended April 2, 2004.

Want to know more?

Visit the following Web sites to learn more about IBM, CSC and the requirements of Basel II.

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