

## Banca Popolare di Vicenza banks on 64-bit business intelligence system



A new business intelligence system created by Banca Popolare di Vicenza reduces response times from 20 minutes to just two seconds, enables management to conduct more complex queries and analysis, and extends the data's reach to many more managers.

Banca Popolare di Vicenza has created a new business intelligence system to enable senior management to collect, analyse, and act on real-time information. The new system was implemented by the bank's IT subsidiary Informatica Vicentina. It is based on HP servers with four Intel® Itanium® 2 processors running Microsoft® Windows® Server 2003 and Microsoft SQL Server 2000 (64-bit), both part of Microsoft Windows Server System integrated server software. The solution has reduced response times from 20 minutes to just two seconds, enabled management to conduct more complex queries and analysis, and extended the data's reach to many more managers.

### Situation

The financial services industry is expected to deal with complex, sensitive, and time-critical data rapidly while meeting the stringent demands of customers, shareholders, and investors. To do so, the leading players are increasingly turning to IT—and, in particular, business intelligence systems—to better use data and make more-informed business decisions.



Banca Popolare di Vicenza is no exception. Established in 1866, the organisation has grown to become the dominant bank in Vicenza, and the leading mutual bank of the Veneto in northern Italy. A series of acquisitions, mergers, agreements, and new businesses have widened its network to cover the whole country; and its own interests, shareholdings, and relationships are now international.

The group recently acquired two new banks, Banca Nuova and Banca Cariprato, and now has more than 500 branches throughout Italy, employing 4,500 staff.

As a result of these acquisitions, Banca Popolare needs to have resources at its disposal to integrate a broad range of customer services, using the most advanced automated banking technology as well as traditional methods. Information is critical, and the company is required to collate and interpret large amounts of data from a range of disparate systems quickly and accurately. In short, real-time access to data is essential so that management can check product information, correlate with defined budgets, and monitor progress.

To keep pace with the fast-moving technological changes that occur in the finance industry, Banca Popolare created its IT subsidiary Informatica Vicentina. This company comprises a team of specialists and experts, who plan, develop, and maintain computer systems for the Banking Group, in addition to providing services and solutions for other external commercial enterprises.

“We did look at other solutions, but the opportunity this one offered was especially attractive. It enabled us to acquire extremely valuable specific knowledge of such an innovative environment, and it provides, among other things, serious commercial opportunities to be exploited outside the group.” Stefano Buccino, U.O. ICT Manager for the Business Organisation Department, Banca Popolare di Vicenza

To address these data collection needs, Informatica Vicentina created a data warehouse with two databases, one that ran on Microsoft SQL Server 7.0, and the other running Oracle® on a Linux® operating system. Because the licensing costs for its Oracle database were high, the company wanted SQL Server to take on a larger share of the future data warehousing workload. It also wanted to ensure higher performance as its information needs grew.

Stefano Buccino, Banca Popolare’s U.O. ICT Manager for the Business Organisation Department, says: “As often happens, the extreme usefulness of the initial tool came with certain limitations. Our rapid growth required ever more complex analysis, and greater volumes of data to be processed, demonstrating the inadequacy of the existing infrastructure.

“On average it took some 20 minutes to obtain the results of a query to the relational database. For any business, not least one in the financial arena, this is unacceptably long. Moreover, only senior management could use this tool and it was inaccessible to many staff who could have used it to great advantage.”

## Solution

In early 2002, the bank was invited to do a trial of a combined Microsoft, Intel, and HP 64-bit computing platform. This offer came as the company was analysing the cost of modernising its legacy systems.

Banca Popolare and Informatica Vicentina tested two HP servers—one for production, and the other for development—with four Intel Itanium 2 processors, running Microsoft Windows Server 2003 and SQL Server 2000 (64-bit), both part of Microsoft Windows Server System integrated server software with Analysis Services. The combined solution is primed for memory-intensive applications in environments where reliability and performance are essential. Initial test results proved a convincing argument for migration to the 64-bit platform. The 64-bit version performed up to 10 times better than the 32-bit SQL Server database.

Buccino says: “The need for communication between different environments, and access to a multi-dimensional database led us to pay particular attention to the application engineering. It gave us considerable advantages in both performance and flexibility.”

Once the machines and all the basic software were installed, the database was transferred to 64-bit SQL Server and re-organised in multi-dimensional form to enable optimal performance and benefit from SQL Server 2000 Analysis Services. The results are projected onto a two-dimensional structure, similar to that for a standard relational database, and transferred to Web pages, which are accessible to users.

Moreno Vendramin, of Informatica Vicentina, says: “We have used the combination of Windows Server 2003 Enterprise Edition running SQL Server 2000 (64-bit) and HP servers powered by the Intel Itanium 2 processor to create a highly effective new business intelligence system. The need for a flexible system that could handle data quickly and reliably was key to choosing the combined solution. We believe that it guarantees the enterprise level security and scalability needed for Banca Popolare’s mission critical data.”

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The collaboration bore fruit in a powerful, secure technological infrastructure. It more than confirmed the latest benchmarking results from the Transaction Processing Performance Council (TPC-C) that took SQL Server (64-bit) and Windows Server 2003 on an HP server with the Intel Itanium 2 processor to its peak performance in handling transactions. “The results of the queries that used to take 20 minutes to arrive, now appear in just two seconds,” says Vendramin.

#### **Easy migration of information**

Migration to the new technology platform enabled a rethink of the database structure. Vendramin says: “The multi-dimensional structure guarantees a more integrated, detailed analytical tool, with greater flexibility, faster response times and more compact archiving. Millions of records are loaded each year, and comparisons made on an annual basis require two years’ worth of data to be held online.”

Buccino says: “Another important advantage for us using Analysis Services capabilities on a multi-dimensional structure was the extremely compact database compression. What used to require 12GB to store archives and indices now only occupies about 100MB of space.” This compression will ensure that the system can cope with any additional information storage demands.

#### **Reduced processing costs**

There is now less need for the Oracle database, meaning Banca Popolare can scale down data processed via Oracle and reduce its licensing costs. The new platform is also less costly to support. New users can be added without incurring additional licence fees.

Buccino says: “Having confirmed the costs we would have incurred to bring the current system, with the same infrastructure, up to speed, it became clear that the ratio between the hardware and software costs—especially the licenses for the database management system—and the benefits from our own growth plan, was unfavourable.

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## **Benefits**

### **Speedy deployment, instant benefits**

Banca Popolare is already enjoying a number of business benefits, and expects them to grow as the platform evolves. Despite the experimental nature of the basic infrastructure in the first phase, development was quick and relatively simple, which enabled benefits such as reduced costs and enhanced security to be achieved faster.

Buccino says: “Installation of the machines and the basic software took just two days and the multi-dimensional redesign of the database and the development of the new code for queries required about two months. Within a few months we were already in production.”

### **Industry standards, industry support**

Despite trialling a new technology, the bank did not feel it was taking a risk as it was fully supported by Microsoft, Intel, and HP. “Installation was fast, and we have had the fullest possible support from all involved,” says Buccino. “Several people from Microsoft Consulting Services worked with us, and we had easy access to HP and Intel who gave us the maximum possible cooperation and support at all times. And, for a pilot project, we were fortunate in the contribution made by development centres in the U.S.”

## Profile

Banca Popolare di Vicenza is the Veneto's leading mutual bank. The group has more than 500 branches throughout Italy and employs 4,500 staff.

## Technology highlights

- Microsoft Windows Server 2003
- Microsoft SQL Server 2000 (64-bit)
- Microsoft SQL Server 2000 Analysis Services
- Intel Itanium 2 processors
- HP Integrity rx5670 Server

### Security remains paramount

Security is of critical importance because of the sensitivity of Banca Popolare's data. The application uses the bank's intranet for maximum security levels (with private lines), as well as the Internet. The user's profile and the communication channel employed determine access rights. If the system is accessed using the intranet, authorised users can perform only the package of operations that reflect their function. If Internet access is used, most of the critical functions are generally excluded to prevent unauthorised access. Client workstations are also recognised through the use of digital certificates, using virtual private network (VPN) technology.

### Flexibility and ease of use

Another key aim of the project was to extend the application's user base and categories of analysis. Buccino says: "We also wanted to expand the end user category to include directors of subsidiaries and product managers, giving another 500 users access to this powerful information resource."

Progress of each product, such as current accounts, loans, and insurance, can be studied and all these values correlated with the data relating to budget forecasts. This information can be extracted for individual subsidiaries, zones, or business sectors. "For example, if you want to know how many loans are open with the Banca Popolare di Vicenza, and growth percentage, a report can be generated instantly, detailing this information," says Buccino.

The Web interface and the careful design work produced a user-friendly application. So training requirements were minimal and were mainly accounted for using online documentation.

Vendramin says: "One aspect demonstrating the application's flexibility is that the end user can add the various elements together in a flexible, open way. For example, you can choose to look at data for current accounts and credit cards, but not loans. Vertical reports are also available, designed for product managers."

## Challenge

The growth of the Banca Popolare group required ever more complex analyses and the handling of increasing volumes of data. This situation highlighted the potential future restrictions of the legacy solution, which had only a limited number of users.

## Solution

Informatica Vicentina tested a 64-bit solution composed of an HP Integrity rx5670 Server with Intel Itanium 2 processors, running Microsoft Windows Server 2003 and Microsoft SQL Server 2000 (64-bit) with Analysis Services. This resulted in an application with exceptional response times on complex calculations.

## Results

- Powerful, secure computing infrastructure
- Reduced costs and complexity
- Industry-standard support provides a future-proofed platform.
- Queries now take two seconds, not 20 minutes.
- A wider user base means more people can make better use of information.
- Easy-to-use system with minimal training needs

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