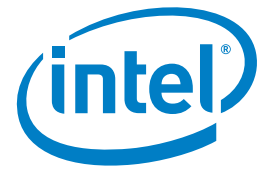


## CASE STUDY

### Intel® Xeon® Processor E5 Family

Financial Services  
Enterprise Reliability  
RISC Migration



# Gneis tackles rising maintenance costs with RISC migration

## Spanish bank Bankinter increased responsiveness when Gneis switched mission-critical applications to Intel® Xeon® processor-based servers

Gneis Global Services manages the IT for Spanish bank Bankinter, a pioneer in digital banking services. With maintenance costs rising fast for its servers, Gneis researched a number of server platforms to find the one best suited to its business needs. In this process it undertook a RISC migration project and deployed servers based on the Intel® Xeon® processor E5 family. Bankinter determined that its customers can now enjoy more responsive and reliable banking services than previously, and Bankinter can rapidly launch new IT initiatives.



**gneis.**  
Una idea Bankinter

“Our deep analysis showed that, of the four platforms we tested, the most efficient environment for Internet banking, trading and other financial services for our business needs is based on the Intel® Xeon® processor E5 family and Red Hat.”

Rafael Salcedo,  
IT Manager,  
Gneis Global Services

### CHALLENGES

- **Optimal performance.** Gneis Global Services, the IT provider to Bankinter Group, needed to ensure optimal availability and response time for Bankinter’s applications
- **Lower costs.** The existing servers were becoming more expensive to maintain
- **More agility.** Gneis needed to be able to deploy new servers and applications more quickly, so the bank could be more responsive to the marketplace

### SOLUTIONS

- **Intel Xeon processor-based servers.** Following detailed analysis and benchmarking, Gneis migrated key applications to servers based on the Intel Xeon processor E5 family, running Red Hat\* Linux

### TECHNOLOGY RESULTS

- **Performance increase.** Bankinter’s own research showed that responsiveness for key banking applications was increased by up to 50 percent, compared to the previous RISC servers<sup>1</sup>
- **Lower costs.** Data center space was cut by 30 percent, and further savings were made on power and cooling

### BUSINESS VALUE

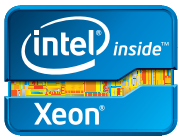
- **Improved performance.** For Bankinter’s customers and employees, Bankinter determined that the IT systems, including online banking, are more responsive and deliver a better standard of customer service, compared to the previous RISC servers

### Breaking free from the legacy

Banking has been dramatically transformed by technology over the last decade, and Bankinter has been at the forefront of these changes in Spain. One of the top five banks in the country, it was the first to introduce Internet banking, mobile banking, and text messages to confirm card payments. Bankinter is so committed to technology leadership that it established Gneis Global Services, which aims to be a leading company in technology and innovative processes for the financial services sector, and is dedicated to serving Bankinter Group.

Since 1997, the company had been using RISC servers for applications including Bankinter’s online banking services, internal financial terminals, and the trading application. “Maintenance costs were rising dramatically,” says Rafael Salcedo, IT manager at Gneis. “We wanted to drive down costs without compromising on service quality, availability, and performance.” There was also an opportunity to improve agility, so the bank could be more responsive to the marketplace and launch new applications more quickly.

“We decided to redesign the processes and systems we had in production to achieve the best results for our own business needs, and we found that many of our systems were locked in by legacy technology,” says Salcedo. “Our applications were running on platforms specified in the past to support legacy applications, but these newer applications should be running on whichever platform offers the best price/performance ratio.”



# Gneis improved the performance of mission-critical applications by up to 50 percent

## Benchmarking for optimal performance

As a first step, Gneis undertook research to identify the optimal platform for its applications, comparing the existing hardware against three other hardware and software combinations, including Intel Xeon processor-based servers running Red Hat Linux. "Our laboratory tests surprised us, with Intel and Red Hat delivering the best performance, and better performance results than our RISC-based production environment," says Salcedo. "Our deep analysis showed that, of the four platforms we tested, the most efficient environment for Internet banking, trading, and other financial services for our business needs is based on the Intel Xeon processor E5 family and Red Hat."

As a result of this research, Gneis migrated the online banking systems and the internal financial terminal applications to servers based on the Intel Xeon processor E5 family running Red Hat Linux. "We have also migrated Bankinter's transactional system," says Salcedo. "This is the main input channel for the bank and one of the most critical systems, demanding the highest level of availability."

## Improving responsiveness

A critical metric for Salcedo and his team is the response time of the server and its applications. "Response times are critical for us to offer high quality and high performance systems and applications to our customers," he says. "The response time in trading operations is very important because a second's delay can mean losing a lot of money and in such a competitive market segment you can't afford to punish the customers."

Bankinter's Broker\* application for trading customers was the first application migrated to the new platform. Bankinter's internal tests showed response time improvements close to 40 percent. Bankinter's online banking website was migrated next, achieving remarkable response time improvements of 36 percent (from 1.1 seconds to 0.7 seconds) according to Bankinter's internal tests. The last application migrated was the Web application for Bankinter business customers. According to internal tests, response times improved by approximately 50 percent.

Intel and Red Hat provided consultancy services to define advanced technology processes to deploy, maintain and evolve the systems' life cycle. As a result, the deployment times accelerated as each system was migrated across.

One of the appealing features of the Intel Xeon processor technology is that Gneis could choose processors with fewer, but more powerful, cores. Salcedo says: "The online banking applications require more powerful cores but fewer threads because they are not parallelized. Thanks to the broad range of Intel Xeon processors, we can choose between high-performance processors with fewer cores for unparallelized applications, ideal for the online banking application, or multi-core processors for parallelized applications. This offers us the maximum flexibility to shape our environment and develop systems tailored to our needs."

## Lowering data center costs

While improving performance, Gneis has also been able to cut its data center costs. "Using

## Lessons learned

"My advice is that you have to lose any fear you have about evolving to these platforms because the performance, robustness, and flexibility did not prove to be a problem for us," says Salcedo. "Human beings have a natural resistance to change, and more so in production environments, but the benefit far outweighs the effort required."

Intel Xeon processor-based servers with virtualization technologies has allowed us to highly consolidate servers, reducing physical data center space, power consumption, and air cooling costs," says Salcedo. "Hot spots in the data center have been significantly reduced, and we were able to cut the space used in our data center by 30 percent.

"By migrating to Intel Xeon processor-based servers, we have maintained system availability and increased the flexibility to add or remove nodes," says Salcedo. "Thanks to the adoption of this technology, we improved the time-to-market of products, as we managed to make server deployments more quickly and efficiently. One example is the COINC\* website targeting young people ([www.coinc.es](http://www.coinc.es)), which was deployed and launched in record time."

Gneis continues to migrate other environments from RISC to Intel Xeon processor-based servers.

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<sup>1</sup> Intel does not control or audit the design or implementation of third party benchmark data or Web sites referenced in this document. Intel encourages all of its customers to visit the referenced Web sites or others where similar performance benchmark data are reported and confirm whether the referenced benchmark data are accurate and reflect performance of systems available for purchase.

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