

"DataSynapse has built its business on a grid computing platform that allows customized applications to use virtualization and automation to share IT resources in a heterogeneous environment...as organizations become more mature in managing IT services over time, a natural inclination is to optimize by consolidating and reducing costs."

- Gartner, Cool Vendors in IT Operations, 2006

### Background

BNP Paribas is a leader in European banking and financial services, with a significant and growing presence in the United States and leading positions in Asia.

The group has one of the largest international banking networks. BNP Paribas is present in 85 countries and has close to 100,000 employees. The company's three core businesses are Corporate and Investment Banking, Asset Management & Services and Retail Banking. In 2004, BNP Paribas had a net banking income of €18.8bn.

### Challenge

BNP Paribas, like many companies in the financial services sector, relies daily upon compute-intensive, business-critical applications which require high performance processing power that is both scalable and reliable. Capital markets thrive on complexity, and sell-side institutions including BNP Paribas rely on high-volume, complex trades to generate profits. For the structured credit group within BNP Paribas' Credit Derivatives Operations (CDO), the ability to master highly complex scenarios was the key to generating profits and delivering new structured products to market. In an increasingly competitive industry, maintaining high margins on new products necessitated increasing compute capacity to run highly complex pricing and risk models accurately and reliably.

Key users also faced unacceptable report turnaround times. For example:

- Risk figures that are critical to traders were often unavailable at the start of the trading day when data was late or when processing problems occurred.
- Complex and compute-intensive applications such as pricing scenarios for structured derivatives took hours to run. This would lead to significant lag times from the time a sales representative contacts a customer to the time a quote could be delivered. This latency translated into missed opportunities for BNP Paribas.
- Batch-oriented applications "stovepiped by trade" resulted in unproductive allocation of system resources. While some areas of the computing environment were idle, other parts required additional capacity driven by complexity and volume growth.

These business-critical applications at BNP Paribas resided on siloed systems, and in this case, the only way to meet increasing demand for processing power was by replicating the systems and purchasing new and costly hardware. In order to guarantee that enough processing power was available during surges in demand, IT resources were over-provisioned to provide sufficient "headroom."

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The over-provisioning of resources, as well as new hardware purchases, leads to increased IT spend for support personnel, bloating total cost of ownership (TCO). More importantly, by solving the problem in this fashion, the existing infrastructure was still not able to scale to meet the current or future needs of the organization.

### Solution

In March 2005, the global structured credit group of the corporate and investment business at BNP Paribas approached DataSynapse to help them meet a surge in demand for IT processing power, due to their increasing business volume and growth. To do this, BNP Paribas decided to fully leverage their existing resources using DataSynapse's GridServer® Virtual Enterprise Edition. The standards-based application virtualization software virtualizes data components and business logic found in applications and distributes these services across available system resources as needed, eliminating IT constraints and processing bottlenecks.

Because DataSynapse had worked with such leading organizations as Wachovia, Credit Suisse, Goldman Sachs, Deutsche Bank and Nationwide, along with organizations in government, energy and industrial sectors, BNP Paribas trusted the performance and reliability of the offering.

"We were impressed by both the depth of companies with which DataSynapse worked with in financial services, as well as their breadth of their experience in other sectors. DataSynapse had demonstrated improved scale and performance for compute-intensive applications," said Dipak Shah, head of structured credit IT at BNP Paribas UK.

The structured credit department at BNP Paribas UK began implementation of GridServer in August 2004, and the application went live in four to six weeks, delivering immediate benefits to the enterprise. GridServer was deployed across HP blades to improve performance of BNP Paribas' CDO business and to maximize cross-platform resources. The network consisted of 150 dual CPU servers, which ran in hyper-threaded mode; post grid implementation, this effectively translated into 600 logical engines running on the grid. In sum, GridServer enabled BNP Paribas to increase utilization of its existing hardware, rapidly improve application response time and accelerate application time to market.

A production-proven solution, GridServer provides a highly scalable IT infrastructure that enables organizations to quickly and effectively respond to changing business requirements, while satisfying the volatile and unpredictable demand for compute power.

### Results

GridServer drove significant application performance gains, from time to build and deploy to improvements in scalability and resiliency. For BNP Paribas, it was clear that taking the first steps toward a service-oriented operating environment through application virtualization saved time, money and improved resource utilization.

"DataSynapse has increased the performance and resilience of our trading applications, enabling us to trade more complex exotics at larger volumes, while speeding overnight batches," commented Shah. "GridServer lets us maximize computing processing resources without major investment in new hardware or expansion of our existing data centers."

Some of the benefits BNP Paribas experienced using GridServer include:

- **Increased Revenues:** BNP Paribas expanded its capabilities and offerings and accelerated time to market for new complex derivatives.
- **Performance Gains:** The solution enabled the easy migration of batch applications towards Web-based service offerings, which serves as a framework for SOA.
- **Improved Report Turnaround Time:** The time to process compute-intensive, complex risk figures was cut in half, and allows overnight batches to run faster and more efficiently. The result: timely delivery of business-critical information to front-office credit derivatives operations.
- **Increased Trading Volume:** GridServer increased BNP Paribas's ability to trade larger volumes and allowed key traders to have valuable, reliable and accurate risk figures throughout the trading day.
- **Cost Reduction and Containment:** BNP Paribas reduced operating and capital costs and ongoing cost avoidance

Through shared and aggregated IT resources, based on business needs, BNP Paribas broke down IT silos, increased utilization of existing hardware and reduced their capital spend requirements, while providing a dramatically improved application performance and response time. BNP Paribas has reaped the benefits of DataSynapse's GridServer technology and created new revenue-generating opportunities.

"With GridServer, we've generated new business opportunities, reduced cycle times, and enabled greater transaction capacity, all driving revenue growth," Shah remarked. "Application virtualization is making us money, period."

### Looking Forward

As BNP Paribas moves towards a global business strategy, the implementation of GridServer facilitates expansion of the company's product areas. As a result of the successful grid implementation in London, the company plans to expand its grid project to New York and Tokyo, as well as across multiple business lines including the credit and interest rate derivatives group. GridServer supports BNP Paribas' global expansion plans by providing cross-asset class computations to deliver value across the enterprise.

"DataSynapse underpins its cost-effective, high performance product with a dedicated and professional EMEA support and services team," said Shah. "We've looking forward to working with DataSynapse in the deployment of its grid solution across our global business operations, and replicating our success in the global marketplace."

### **About DataSynapse**

DataSynapse, Inc. is a global provider of application virtualization software. The company's flagship products, GridServer® and FabricServer™, virtualize business-critical applications and adaptively provision them across a real-time infrastructure. DataSynapse drives business agility through shared services, helping clients reduce the cost and complexity of their IT infrastructure. The company is headquartered in New York City.

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