

## Sumerian helps global investment bank optimise capacity and de-risk change for critical pricing service

### Client challenge

Investment banks operating in today's tough economic climate have never been more reliant on highly performant, optimised trading services in order to improve bottom-line performance, reduce risk and increase competitive advantage. Key to achieving optimisation is effective capacity planning and understanding the impact of change, so that IT services can be proactively managed and the threat of business disruption allayed. However, with many typical trading services being underpinned by highly sensitive, complex environments comprising multi-tier grid architectures – the reality of doing so can prove extremely difficult.

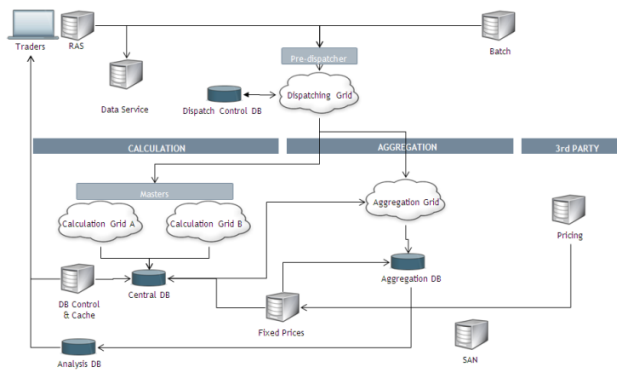


Fig. 1 - Example of pricing and risk calculation architecture




In one such environment, a leading European corporate and investment bank, with over 120,000 employees worldwide, was interested in finding ways in which it could optimise the capacity of its pricing and risk service – a critical backbone function to the business. The service architecture, which comprised 3 high performance computing grids with approximately 2000 nodes, was particularly complex and sensitive to change.

Although the IT team had a wealth of knowledge surrounding the service's individual sub-components, less was known about its end-to-end capacity limits, and in particular, how business portfolio volumes correlated to IT utilisation, performance and available capacity headroom. This being the case, the team had made an attempt to model the service, but had found it difficult to uphold due to its complex, changing nature and the significant resources it would require for ongoing management.

### The challenge

- Highly complex post-trade analytics application at large investment bank - 2000 nodes / 3 grids
- Need to sweat the assets and absorb additional portfolio processing volume with minimal investment
- Four potential scenarios:
  - Increase volume by 100% with no change
  - Virtualise JRisk cluster
  - Migrate ISL database from SunFire E15K to E25K
  - Change database from Oracle 9i to 10g

### Value delivered

-  CTO: Identified relationship between portfolio volumes, processing times and capacity. Identified and quantified optimal investment option to manage portfolio increase
-  Head of Infrastructure: Addressing existing bottlenecks and implementation of recommended changes enabled the bank to defer multi-million Euro investment spend
-  Head of Service Centre: Put in place recurring, repeatable capacity modelling and analysis service to support continuous improvement and drive internal team efficiencies

This meant that the team was not able to satisfactorily quantify the impact and risk (both in terms of IT and the business) of any changes made to the service. And this need was particularly significant due to a number of proposed upgrades and growth plans the team was considering; these included a switch to virtualisation, increasing the business load by 100%, and introducing a new server and database upgrade. In approaching Sumerian to assist, the team wanted to discover how an IT Analytics approach could provide the ongoing, accurate capacity and change impact modelling and reporting required to successfully optimise and manage such a critical business service - without introducing any risk to business performance.

### Sumerian solution

Sumerian was able to rapidly engage and deploy its analytics service into the bank. This service works by capturing performance and capacity data from underlying system components such as network management tools, server metrics, message buses, batch log files and grid performance metrics, on an ongoing basis. Using this data in combination with metrics and data captured from the business trading side, Sumerian constructed an accurate model of the pricing environment; and by using in-depth regression analysis, could correlate the relationships between typical peak business load, IT utilisation and available capacity headroom.



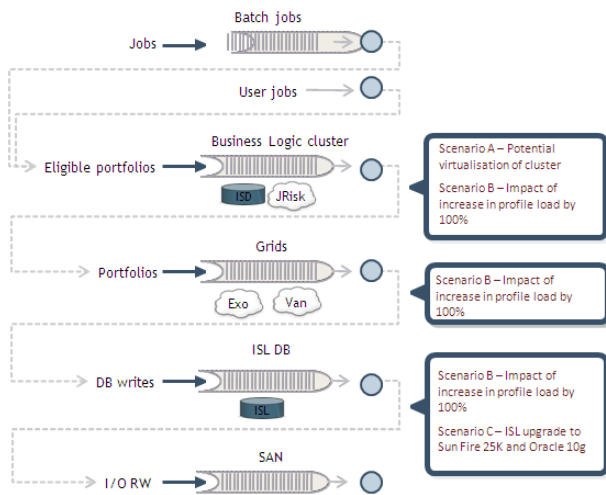


Fig. 2 – Scenario modelling the options

While this model alone was highly valuable in exposing the relationship between business throughput and IT capacity for forecasting purposes, it also provided the basis for predictive scenario modelling and quantifying the impact of change. For example, in modelling the impact of a switch to virtualisation, Sumerian’s analysis concluded the server cluster was heavily imbalanced and through deploying virtualisation could reduce maximum utilisation by nearly 50%, giving them increased headroom and a much greater flexibility to meet changing business demands.

In terms of understanding the impact of growth by increasing the business load, Sumerian confirmed that there would be sufficient capacity to process the current volumes of portfolios, but during peak load periods, a bottleneck could appear in two key components. If the current load was to increase by a further 100%, nearly all sub-components would breach capacity at some point during the day. Finally, for the proposed server and database upgrade, Sumerian’s modelling could accurately quantify that their introduction into the service would provide capacity and performance benefits by dramatically increasing the throughput of portfolios per hour to a far higher degree. To relay these findings back to the team, Sumerian provided a rich variety of reporting, which included direct analyst presentations and a tailored Web portal featuring an array of cutting-edge dashboards and visualisations.

## Outcome and results

The analytics service provided by Sumerian was instrumental in helping the team improve its overall understanding of its capacity position in ways which were not previously possible. Sumerian’s rapid deployment and ongoing ability to quantify business throughput against available IT capacity is helping the bank to advance the management of its risk and pricing environment to new

levels of optimisation – de-risking change and driving performance improvements on an ongoing basis.

Each week, Sumerian provides a regular capacity forecast updated with the current business portfolio load, correlated to end-to-end capacity headroom. The report provides a robust mechanism for proactive, business-aligned capacity planning, enabling the team to ensure adequate estate resources are provisioned for both current and future business volumes. Furthermore, the reporting has proved so useful that the bank is now expanding its coverage to a further three key business services, including other teams within the organisation

In using Sumerian’s scenario modelling to accurately determine the impact of change before applying it, the bank was able to de-risk its decision making and be sure in the knowledge that the proposed upgrades delivered on their expected value. Overall, Sumerian has helped the bank to proactively manage a service that is critical to the bank’s trading operations, enabling it to optimise estate resources, reduce risk and deliver highly performant services now and for the future.

### More information

For further information on Sumerian or to arrange a demonstration of our services, contact us on 0141 229 7580, e-mail us at [info@sumerian.com](mailto:info@sumerian.com) or visit our Web site at [www.sumerian.com](http://www.sumerian.com)

