

Sumerian improves capacity planning and risk management for trading arm of large UK bank

Client challenge

A large UK investment bank, which provides award winning banking services to around 17,000 businesses across the UK, was interested in exploring ways in which it could improve its capacity planning and reduce risk for its business critical trading services. Although aligning IT to the bank's trading environment stood at the heart of the team's strategy, gaining an understanding into how trading activity and behaviour were impacting IT utilisation and capacity was proving difficult.

In approaching Sumerian to assist them, the team was interested in exploring how IT Analytics modelling and analysis capabilities could help them gain an improved understanding of their environment. In particular, the team was interested in learning more about the correlations between trading activity and IT utilisation, with the ultimate goal of delivering more aligned, cost-effective and risk mitigated services that could demonstrate appropriate risk control for its compliance needs.

Sumerian solution

Sumerian's starting point was to deploy its analytics service into the bank's trading environment. The service provides performance and capacity analytics along with on-demand, deep-dive analysis into specific areas of interest. It works by capturing and modelling IT infrastructure data from each service's underlying components such as network management tools, SAN monitors, server performance metrics, message buses (such as TIBCO Rendezvous), batch log files, grid performance metrics and trade audit trails – all of which provide rich information for end-to-end application performance and capacity management.

In order to successfully map and correlate the available data to each relevant trading service, Sumerian created a hierarchical model by categorising infrastructure components into a number of groups:

- **Intra-Day** – this group comprises straight-through processing (STP) servers, middleware servers, blotter servers and others used to book and track trades made during market opening hours.
- **Batch** – this group of servers processes the overnight batch, including closing the day's books, running position and risk calculations, and preparing for the next day's opening.

The challenge

- Post-merger investment banking arm of large UK bank
- Needed to understand capacity of IT infrastructure to support trading volumes of newly merged organisation
- Needed to demonstrate effective risk control to financial authorities

Value delivered



CTO: Ability to accurately profile and correlate trade mix and volumes to IT requirements enabled optimised investment to support new business volumes. Also enabled improved engagement with the business to refine the trading mix to maximise profitability.



All: Ongoing Sumerian service enables the bank's IT team to optimise trading services on a continual basis and also demonstrates effective risk control to authorities.

- **HPC grid processing** – these servers provide risk and position calculations and are typically processor-intensive and generally farmed out to HPC grid computing farms, the utilisation and performance of which are critical to application performance.
- **Supporting infrastructure** – comprises the network, database and storage components.

From constructing baseline models of the IT environment, Sumerian could then gather metrics from the business trading side and apply in-depth regression analysis to identify relationships between business volumes and server utilisation.

Outcome and results

The first analysis results, which were supported with the use of heatmap charting, quickly revealed some significant insight that the team could action. For example, on one application accessed by staff on the trading floor, application trade volumes were increasing by an average of ~10% year on year, but with significant variations depending on the trade types. The analysis also identified that database space requirements for different trade types varied significantly, from 1KB per trade for one particular application to 250KB for another.

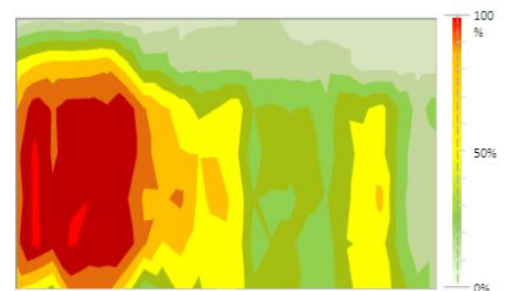


Fig.1 – Example of Sumerian heatmap for CPU utilisation

The correlation of trade volumes and capacity metrics was strong enough for Sumerian to conduct predictive modelling for the main trading floor application, modelling CPU utilisation of the intra-day servers, and database disk requirements under various growth





scenarios. For the bank's batch processing function, which runs as an overnight process, Sumerian findings quantified the correlation between the length of the total aggregate processing time and the daily number of trades in the database. By overlaying various forecasted growth scenarios in trading activity, Sumerian could then provide the team with precise indications on how the processing time would increase with the rise in trades.

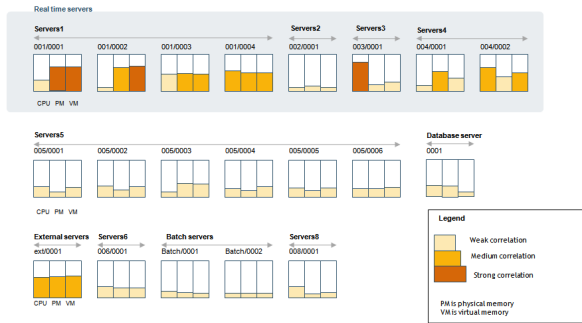


Fig.2 – Example of Sumerian server estate headroom visualisation

The correlations and trends identified through Sumerian's analysis were considered more accurate and valuable in comparison to the team's previous methods of IT monitoring and intelligence gathering. In particular, the ability to gain deeper understanding into trading behaviours and their impact on infrastructure utilisation was seen as especially useful in aiding a meaningful dialogue and improved working relationship with the business.

With the success of the first analysis apparent, the bank proceeded to a full ongoing monthly reporting service from Sumerian, so that the improved management insight into its trading activity could be further optimised and built upon on a continual basis. Overall, the advanced understanding around capacity has enabled the team to reduce risk and cope better with demand and unforeseen change. It has enabled the team to open up a more fruitful dialogue with the business and demonstrate how IT can be used to drive even greater trading performance. And with the use of Sumerian's ongoing monthly reporting at hand, the team has been able to concentrate effort into applying an advanced capacity planning capability – staying ahead of the curve with provisioning services that are accurately aligned to its trading activity 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 or visit our Web site at www.sumerian.com

