

## Sumerian helps global investment bank optimise capacity and latency for critical FX service targeting new market opportunity

### Client challenge

Today's economic environment has driven large scale change and merger activity across the investment banking community. In order to reclaim a strong position in the newly restructured market, banks have had to act fast and their IT teams have had to respond to change rapidly, delivering highly performant, flexible systems to support the changing business dynamics.

For one such bank, with operations spanning the globe, the changing market conditions lead to a strategic decision to significantly grow the FX side of their business. This meant the IT team had to rapidly access the ability of the current FX systems to scale to meet these aggressive growth targets, and move quickly to mitigate any risk.

### Sumerian solution

FX as a business is characterised by massive volumes and extremely tight latency targets (sub 10ms tick to quote). In such a demanding environment having accurate visibility and understanding of capacity and latency across the supporting IT landscape is critical.

Recognising the need for fast, accurate information, the investment bank's IT team engaged with Sumerian to analyse both the capacity and latency of the underlying IT infrastructure used to support the FX business.

Sumerian's approach is to capture low level, granular data from across the entire IT environment and use it to create a sophisticated and highly accurate model of the system. In this case, we modelled all aspects of the system including market data interfaces, price creation engines, risk management, spread and precision management, right through to the FIX interface to customers and trade booking on the return leg.

We captured utilisation data from across the 80 server estate - physically located across the US and Europe - and captured log files from all application components. This equated to approximately 500GB of data for just one week's operation. We then modelled the correlations between quote and trade volumes and server utilisation and latency (both end-to-end and per component).

### Summary

- Identified critical capacity bottlenecks - enabling rapid action to reduce risk and support required business growth
- Accurate quantification of end-to-end system latency - allowing targeted investment to achieve necessary latency improvements
- Repeatable capacity modelling and analysis - driving continuous improvement and market-leading competitive position

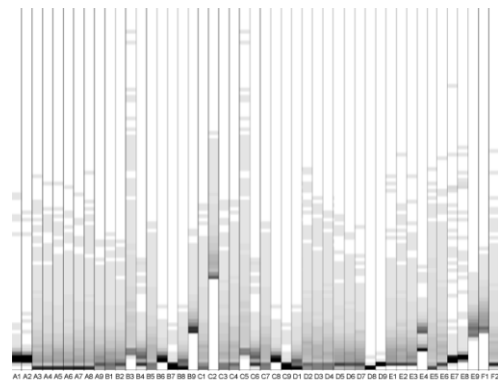


Fig. 1 – Example Sumerian distribution intensity map showing resource utilisation across server estate

### Outcome and results

Sumerian's analysis identified initial capacity bottlenecks in two underlying system components which would limit growth to a 20% increase over current trade volumes. One of the actions taken, based on Sumerian's recommendations, involved changing the load balancing across a group of servers. This resulted in sufficient headroom being made available to support 80% growth without the need for any additional investment.

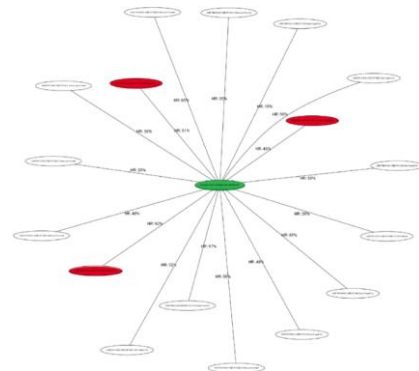


Fig. 2 – Example of Sumerian spider map showing capacity hotspots



# Sumerian case study

Sumerian also quantified current end-to-end latency across the system, identifying bottlenecks and resource constraints that were limiting performance and only enabling the bank to reach its latency targets in 25% of cases. Based on Sumerian's analysis and recommendations the bank is now implementing an action plan, including development and re-architecting of one of the key application components.

The bank found Sumerian's initial analysis so powerful that they have now engaged us to provide a capacity modelling and analysis service on an ongoing basis, to support continuous improvement and help the bank to achieve its FX market ambitions.

## 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)