

Trading platforms

Grid Analytics

The criticality of grids for functions such as derivative risk analysis, pricing positions and settlement makes continual optimisation an imperative. Understanding the performance profiles and durations of simulations used to analyse trade portfolios, models, tasks and jobs is vital in order to align grid engines efficiently and keep costs under control. Answering this need, Sumerian's Grid Analytics delivers accurate insight to help teams configure and manage the grid proactively – de-risking its operation, controlling costs and ensuring optimum levels of performance on an ongoing basis.

The challenges

Gaining an accurate, business-aligned view of grid performance and capacity is very difficult to achieve given the complexity of the grid function and the large volumes of data it is required to process, often compounded by the following issues:

- **Lack of visibility into business volumes and grid allocation** – inhibits understanding of how effectively jobs are optimised across the grid architecture and how fluctuations or growth in volumes is influencing their duration
- **Difficulty determining the grid's performance** – related to the above issue, teams have little or no understanding of how volumes and demand are impacting grid compute performance, making it difficult to pinpoint bottlenecks and configuration issues
- **Limited view of available capacity and headroom** – without visibility into how jobs are being executed, calculating current and headroom for future growth requirements is invariably weakened

How our service works

Answering these challenges, Sumerian takes a unique approach to grid optimisation and its ongoing management. Using our highly powerful analytics platform, we capture, model and analyse the data generated by your grid environment, establishing its current performance and capacity and how well it is provisioned to meet current and forecasted business volumes. This approach supplies highly precise, repeatable analysis that reveals a connected view of your grid against your current trading portfolio activity and required model/task/job processing, allowing you to optimally provision now and for future growth.

Sumerian's advanced approach determines the factors at play within your grid environment by calculating

- The current business volumes and composition of each job and how these are currently allocated on the grid
- How grid engines are currently being utilised, establishing current performance and duration

- **Provides holistic grid visibility to proactively optimise**
 - supplies the insight to understand current levels of projected business volumes on grid capacity and performance
- **Identifies bottlenecks and reconfiguration actions**
 - proactively locates where in the grid re-configuration or adaptations to models/jobs/tasks can be made to optimise effectively
- **De-risks change and informs ongoing optimisation** – enables teams to understand the impact of change and where to direct focus for the most beneficial returns

- The per-trade type compute time, per model processing time and how these vary with projected demand

Armed with this insight, we can answer any number of questions surrounding your specific grid optimisation objectives, for example:

- *How fast is our current risk analytics processing a given portfolio and where can we make adjustments to improve it?*
- *Are there any portfolios/models/tasks/jobs that require more grid resources and if so, how should we provision or allocate to process them optimally?*
- *If we grow a particular trade type by 30%, how will this impact the grid's utilisation and do we have enough capacity to meet this demand increase?*

What you get

We deliver a hosted subscription-based analytics service, requiring minimal time from you and your team to get underway – delivering our analytics in as little as 6 weeks.

Fast, secure data cleansing and integration

Using our pragmatic data collection techniques, we capture granular data from across your grid and supporting systems - verifying, cleansing and storing it securely in our world class data warehouse facilities. Our service can take any data, but typical data sources for capacity include:

- **Infrastructure utilisation metrics** – BMC Patrol, ProactiveNet, ITRS, TeamQuest, PerfMon, SAR
- **Grid broker logs** – TIBCO Datasynapse, Oracle Grid Engine, Platform Symphony
- **Application server logs if appropriate** – WebSphere, JVM logs
- **Web server logs** - Apache, IIS
- **DB utilisation and transaction logs** – such as Oracle AWR files, Statspack output
- **Network traffic profiling and performance logs** – Packeteer, Wireshark, IP SLA, Netflow

Baselines current performance and capacity

Using our analytics platform, we build a baseline model of your grid environment, correlating the performance of all underlying grid engines against current business volumes and how these are comprised. By then examining the correlations between business volumes, profile mix and utilisation, we calculate the current grid





compute and duration, identifying if and where job queues or performance bottlenecks are appearing. In conjunction, the baseline precisely will identify whether grid engine partitions require reconfiguration. To enable clear understanding, Sumerian's indepth reporting employs a suite of visualisations to illustrate where issues are occurring – helping teams across the IT organisation to collaborate effectively and understand grid performance and capacity holistically.

Scenario modelling and forecasting

The baseline model offers a powerful platform for you to leverage and maximise further. Using sophisticated “what if?” scenario modelling, we can answer any number of questions around your grid optimisation objectives. For example, we can assess the risk, impact and cost of any partition changes or adaptations to models/tasks/jobs and their respective volumes. The advantage of scenario modelling is that it can accurately answer any number of questions that the business has around performance position, providing a “pre-sandbox” environment in which to test out and de-risk your planning.

- *If we plan to grow our Equities trading by 20%, does the grid have adequate capacity to support the increased simulation requirements?*
- *Do we have an opportunity to reconfigure the grid to support further business growth, without having to increase its size?*
- *We need our analytics to run faster and support higher volumes, can the grid support this and what changes do we need to make?*

Expert reporting – on demand, repeatable

Our analytics are presented to you using a variety of methods depending on your requirements, from a tailored, secure Web portal to regular reporting from our data scientists. Key to our reporting is clarity, ease of use and precision - so you can make fast decisions and drive proactive, positive improvements to your IT. Our service is very flexible and easy to re-align, we keep pace with your environment, adapting our analytics to meet your changing priorities.

The outcomes you can expect

Our services will enable your organisation to significantly advance your grid optimisation objectives – ensuring you deliver continually high levels for the business.

- **Provides holistic grid visibility to proactively optimise performance and capacity management** - supplies the insight you need to understand current levels of grid performance and the relationships between business/trade volumes, grid compute, node utilisation and capacity
- **Identifies bottlenecks and reconfiguration actions proactively** – locates where in the grid reconfiguration or adaptations to the portfolio/models/tasks/jobs mix can be made to optimise effectively
- **De-risks change and informs ongoing optimisation** – enables teams to understand the impact of change and where to direct focus for the most beneficial returns

Intelligent analytics, smarter decisions

Our Grid Analytics is just one of a suite of analytical capabilities we can apply to your trading systems. The Sumerian solution framework has a broad range of capabilities that may be applied to a number of your complex trading challenges. Other analytics we can supply include:

- Capacity Analytics
- Latency Analytics
- Performance Analytics
- Fill Rate Analytics
- Batch Analytics

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

