



## Grid Solution for Financial Modelling

The energy trading department of British Nuclear Group, who operate the Magnox nuclear power stations, are currently developing systems to improve their financial modelling capabilities. British Nuclear Group have proposed a new hedging model to support their trading operations.

### Business Problem

In order to fine-tune and verify the model it was necessary to carry out a large number of Monte Carlo simulations. British Nuclear Group did not have the computer or human resources available to perform these simulations themselves.

Having completed successful work for them in the past, Tessella was chosen by British Nuclear Group to perform the necessary Monte Carlo simulations.





## Solution

Tessella developed a wrapper for the new hedging model so that it could run in a Grid computing environment. For this environment, a shareware product, Condor, was used by Tessella, as was some of the technology behind the Tessella GTI (The Grid Technology Infrastructure combines Condor technology with an ergonomic web-based user interface, allowing central control and user security).

The solution developed by Tessella had to overcome a number of technical difficulties. Because the model was tied to a 3rd party product based on MS Excel, the simulations required MS Excel to be run within Condor. Furthermore, the model used input data from a central database which meant that network access was also a requirement.

## Results and Benefits

In order to demonstrate the validity of the model, over 50,000 Monte Carlo simulations were carried out over a 3-week period. During this time the Grid approach ensured that all available CPUs were used to maximum effect and that all results files were grouped together in a single location. A simple script was put together to automatically concatenate the results files in order to facilitate analysis of the results.

Following on from the success of this project, Tessella worked with the client to turn the hedging model into a robust and user-friendly application for use by energy traders as part of their daily activities.

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