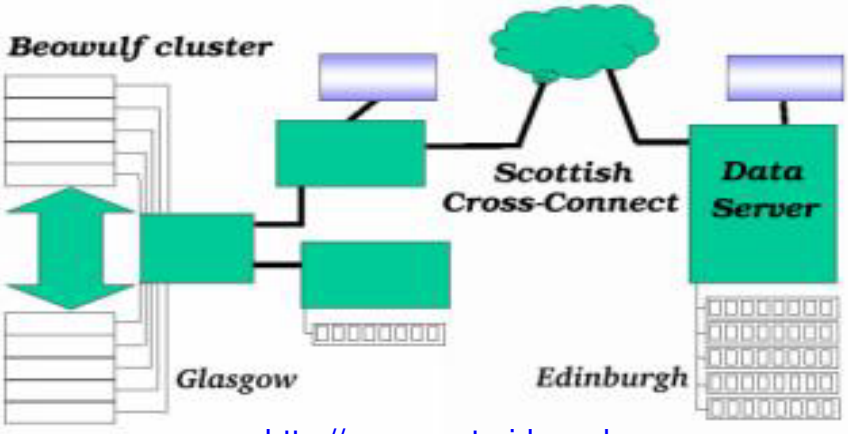
ScotGRID

Scotland: Exploiting the Next IT Revolution

Mission Statement:

ScotGRID is the Scottish Tier 2 centre for LHCb and ATLAS computing resources - using a novel distributed architecture and cutting edge technology.

As one of the first large scale, specialized, distributed systems the knowledge we generate is likely to assist both business and science as we push forward the frontiers of Grid computing. Using the specialised experience available at each site ScotGRID gives the Universities of Glasgow and Edinburgh the opportunity to continue their world class research.



http://www.scotgrid.ac.uk

Initial Projects

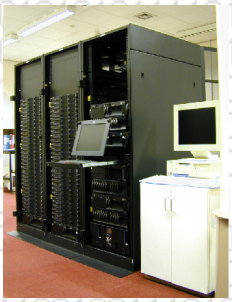
HEP Applications: During the construction phase of the LHC experiments the detector performance needs to be understood and trigger strategies need to be devised to select interesting events. This will require large-scale Monte Carlo simulations known as ``Data Challenges" which ScotGRID will provide.

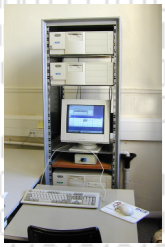
Grid Data Management: The handling of large distributed datasets is one of the key issues for the Grid. Users must be given secure access to massive amounts of data stored at a number of remote sites. This access should be transparent such that the user will be able to perform data analysis, whilst replicating and moving data from one site to another at high speed where necessary.

Network Monitoring: The Grid will depend upon a reliable and predictable networking service with good bandwidth between sites. Monitoring techniques will be required reflecting differing qualities of service in the networks; this will involve instrumentation of user applications, studying network flows and other network statistics.

Tier 2 Centres

Regional Centres provide several valuable services which would be impossible to replicate at a single, national centre. In scientific terms they allow for the distribution of data and processing in a way which ensures that there will always be some resources available, there is no single point of failure and that they provide a valuable service for the region they are in.





Training & Industry

These centres fill the role of training local students and academics in cutting edge technologies which can be taken into the business world in the future. By having several regional centres, each one can specialise and provide support and training for the others when necessary.

These centres can also be used for projects with local companies - solving problems which they facing now, and which require skills and resources they would not have access to otherwise.

ScotGRID intends to learn from the experience of the Edinburgh Parallel Computing Centre (EPCC) about how best to do this.

ScotGRID is taking an active part in the EU DataGrid - primarily to avoid replication of effort and spread costs between EU member states. As active members of several of the Work Package Groups, ScotGRID is initially interested in the areas of Grid Data Management and Network Monitoring.