

BROADEN (Work Package 3)

Delivering the results of the DAME e-Science project into industry

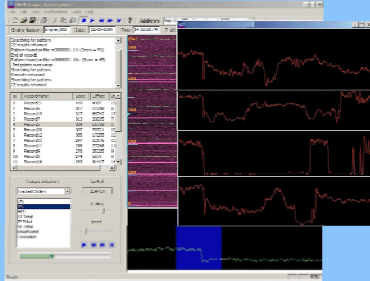
Business Resource Optimisation for Aftermarket and Design on Engineering Networks

A DTI Technology Programme - Inter-Enterprise Computing Call Project (number TP/2/IC/6/I/10157).



The Signal Data Explorer (SDE) Tool

Data Visualisation and real-time search capabilities for complex signal data have been developed by the University of York and Cybula. The SDE is an interactive search tool connects directly to the distributed Grid data repositories via the data management and pattern matching architecture.



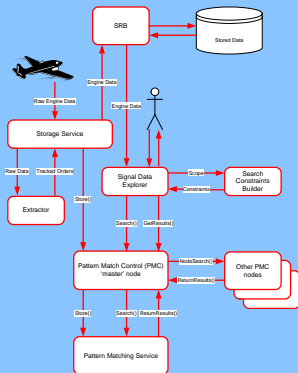
Decision Support and Modelling Tools

The University of Sheffield has developed Grid enabled decision support systems based on Case Based Reasoning tools and complex modelling services. These tools are fundamental to the diagnostic process and in the management of domain knowledge and workflow capture on BROADEN WP3.



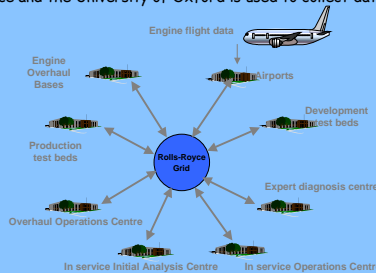
The Data Management and Pattern Matching Architecture

Developed by the University of York during the DAME project, the data management and pattern matching architecture provides virtual data hosting. Generic, Grid enabled, pattern matching and data-mining services have been built to interface to SRB or other distributed Database technologies.



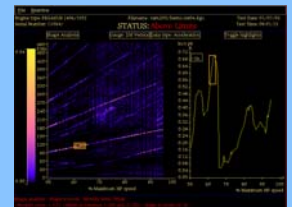
The Business Context

Data from engines in service (on wing), in overhaul bases, in production and in development is accessible from the Rolls Royce Grid. The appropriate Operations Centres and the Initial Analysis Centre assess conditions and provide diagnoses or request assistance from the Expert Diagnosis Centre, as appropriate. Tools can be executed remotely (e.g. at airports) or data moved to the appropriate tools as necessary. The QUICK™ on engine monitoring technology that has been developed by Rolls-Royce and the University of Oxford is used to collect data.



The QUICK Data Viewer Tool

The QUICK Data Viewer will be developed from existing tools by Oxford Bio Signals. It will be a service based tool which allows the viewing of Zmod data and detected feature summaries.

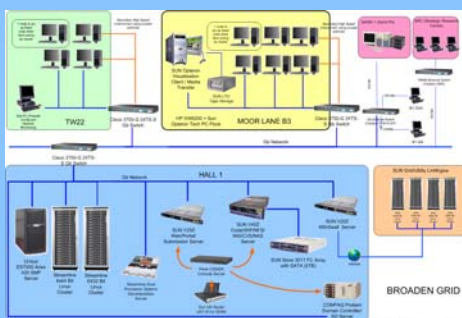


The Rolls-Royce Grid will provide:

- Grid management of high-volume distributed data
- Grid enabled decision support and diagnosis tools and services for a distributed analysis/maintenance team
- Brokering and Workflow systems to manage Quality of Service and Service Level Agreements
- Data-mining and pattern matching tools for complex time-series data
- Viewing of QUICK data and feature summaries.

The BROADEN Grid Infrastructure

The BROADEN Grid Infrastructure is designed, hosted and managed by EDS.



Workflow Management, Brokerage and Quality of Service Management

The University of Leeds have developed novel methods for workflow management, brokerage and Quality of Service management, these will be developed further and implemented on BROADEN WP3.

