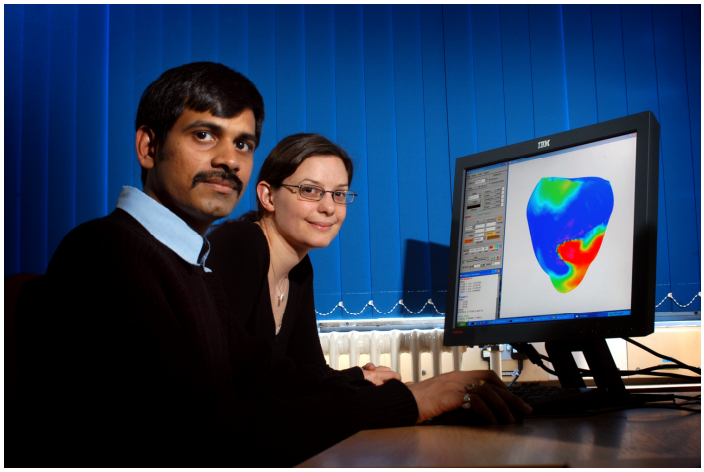
Science & Technology Facilities Council
e-Science

Users and Collaborators 2007

The STFC e-science centre supports research undertaken by all research councils. Both users and collaborators include researchers in universities, research laboratories and commercial companies throughout the UK, Europe and the world in a broad range of disciplines.

A brief description of the current users and collaborations is presented here as examples to show how you could work with us.



Introduction

Rather than buying a local resource, and then staffing it themselves, many organisations buy e-science capabilities from STFC, who provide a range of solutions that they can move between as their requirements change. This solution stays cost effective, without them making long term capital and staffing commitments.

Users of the services and facilities provided by the e-science centre come from a broad range of disciplines. Some services are used by many disciplines, such as the JISCmail service which is used by 80% of UK academics, and the NGS which is already used across many subject areas. While other services are focussed on specific research disciplines.

Other collaborations include the joint development of new technologies or services, and the joint operation of services.

Biosciences

The UK bioscience community is provided with HPC support in collaboration with the STFC hosted National HPCx service. BBSRC laboratories use the Atlas Petabyte Data Store to preserve their data. The centre has also grid enabled the protein crystallography beam-line on the Diamond light source for remote access by bio-scientists.

Medicine

Collaborative activities include participation in the Integrative Biology project to model the human heart and transfer the generic software for cancer tumour software. The centre hosts the MRC psycholinguistic database. The NGS is available for drug modelling and epidemiology simulation.

Particle Physics

The Tier 1 computing service is used by the UK particle physics research community.

The data analysed comes from a range of international sources including CERN in Geneva and the BABAR experiment at SLAC in California.

Astronomy & Space Sciences

Data from various satellites is archived in the Data Centre, while application development has allowed the visualisation of upper atmosphere data to show three dimensional views capturing depth rather than just slices of data at specific altitudes as before.

Chemistry

The HPC support service supports the NSCCS chemistry consortium, while the chemistry community provide a significant number of users of the NGS.

Environmental Sciences

The British Atmosphere Data Centre (BADC) and the Near Earth Observation Data Centre (NEODC) use the Data Store for their data.

The E-Minerals Consortium are provided with HPC cluster housing and support, storage on the Data Store and software development support including ontological modelling.

The Hadley Centre climate models have been tuned to predict climate change on a Met Office cluster comparably fast to their performance on the CSAR supercomputer at Manchester before it closed this year.

Materials Science

The HPC support service supports the minerals and ceramics consortium. The e-Materials consortium has been provided with application support and portal creation for molecular modelling as well as virtual storage.

Instruments on the ISIS facility are being Grid enabled so that the wider community can access them.

Social Sciences

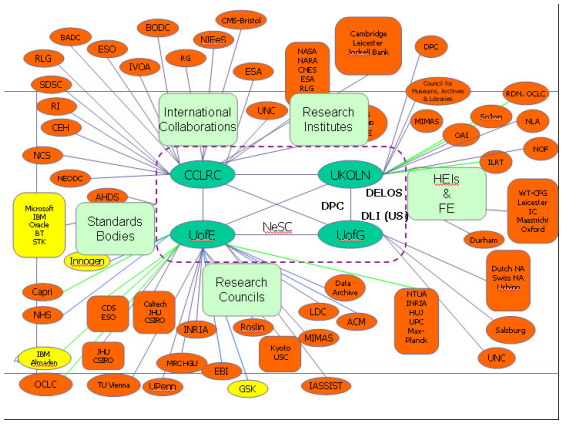
The NGS is trying to encourage more social science researchers to use it to meet their computational needs, as a part of the 90% of the estimated market that have not yet taken up this service.

The information management group has collaborated with the ESRC Data Archive at the University of Essex on the design of XML and RDF representations for thesauri and social science data.

The frameworks group has several collaborations with the social science community including the development of the NW-Grid, and the organising of the 2006 e-Collaboration Workshop – Access Grid, Portals and other Virtual Research Environments for the Social Sciences.

Arts and Humanities

The arts and humanities are less represented among the collaborations than other areas. At present the only collaboration is with the Arts and Humanities Data Service (AHDS) who use the Atlas Petabyte Data Store.



Library & Information

Data curation activities are underway across several departments within STFC. Much of this expertise and our major external developments are focused through STFC's collaboration with UKOLN and the universities of Edinburgh and Glasgow in the Digital Curation Centre. However, complex collaborations propagate from this which are shown in the figure above.

Computing

The information management group have collaborated with many universities and commercial companies throughout Europe on software development. The major ICT companies and university research teams are represented, including BT, BAE Systems, IBM, HP, Microsoft, SAP, and Telefonica. Collaborative standardisation is also used as a significant route to establishing new technologies through bodies such as W3C and GGF.

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