Computing at The Atlas Centre

A.B.R.C. Supercomputing

S.E.R.C. Supercomputing

Office Automation

Cray X-MP / 416

IBM 3090/600E

Site Networking

JANET Networking

Small Systems Support
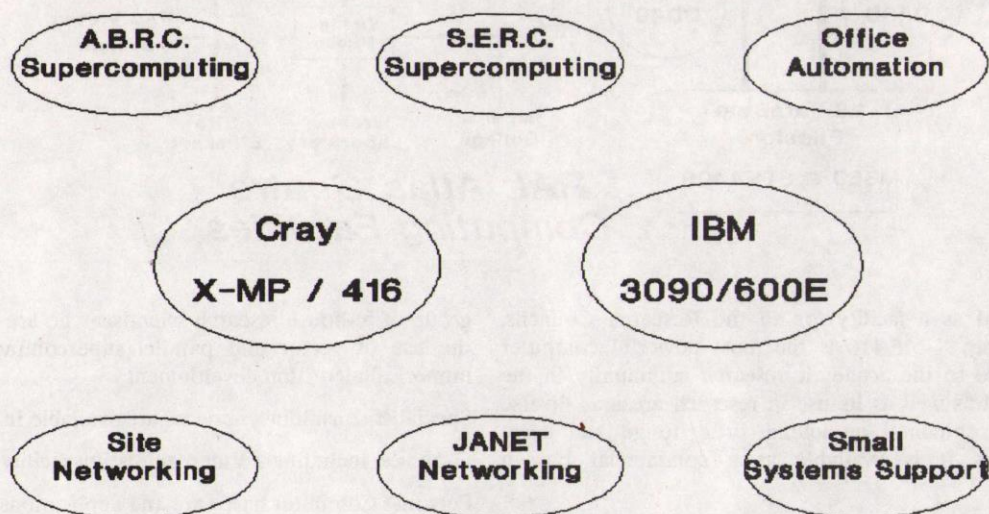
Role of the Atlas Centre

Since its birth in 1965 as the Atlas Computer Laboratory, the home of the Ferranti Atlas 1 computer, the Atlas Computer Centre of the Rutherford Appleton Laboratory has supplied state-of-the-art computing resources to research projects both in universities and government laboratories.

There is always a class of research project which requires the largest available computing power in order to be internationally competitive and this is most cost-effectively provided as a shared central resource.

In order to make this central computing power available to users at universities throughout the UK the Atlas Centre is one of the major switching centres of the JANET network which extends to most Higher Education Institutes and research centres in the UK and has links onward to Europe and the USA.
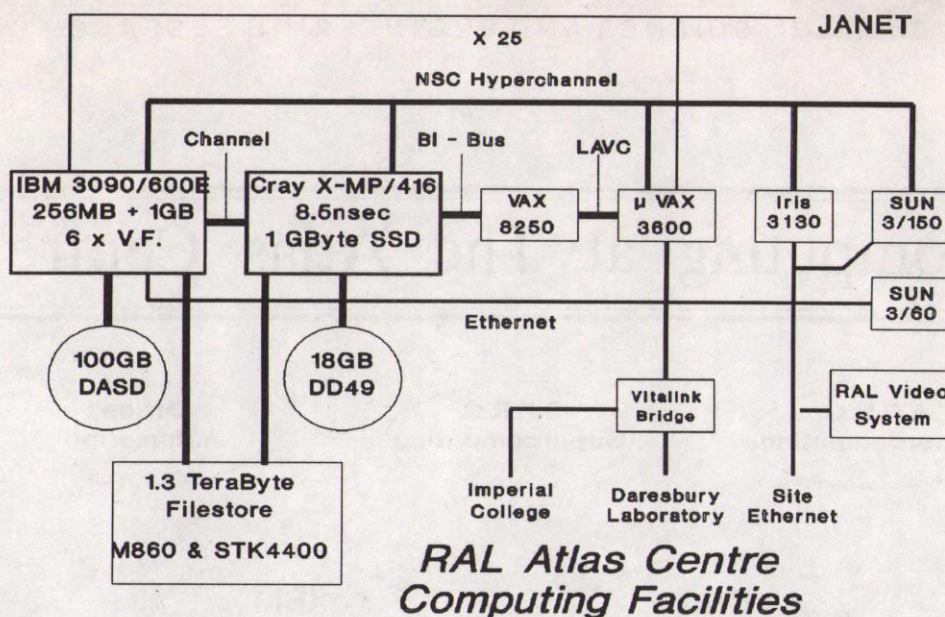
Services Provided at the Atlas Centre

The major facilites at the Atlas Centre are:

(i) An IBM 3090/600E mainframe with six 'vector feature' processors to provide supercomputer performance for SERC sponsored research, for SERC corporate computing and for commercial bureau services to industry. The 3090/600E is partly provided through a joint study contract between IBM (UK) and SERC and supports a programme of 'strategic users' aiming at progressing the state of the art in important areas of scientific computing.

The IBM 3090/600E is a six processor computer with 256MByte of fast memory, 1GByte of expanded memory and it can run jobs of up to 999MBytes in size under the VM/CMS operating system. Its peak computing speed is 696 million floating point operations per second.

(ii) A Cray X-MP/416 vector supercomputer which is

X 25   **JANET**

NSC Hyperchannel

Channel   BI - Bus   LAVC

| IBM 3090/600E 256MB + 1GB 6 x V.F. | Cray X-MP/416 8.5nsec 1 GByte SSD | VAX 8250 | µ VAX 3600 | Iris 3130 | SUN 3/150 |

SUN 3/60

Ethernet

100GB DASD   18GB DD49

1.3 TeraByte Filestore

M860 & STK4400

Vitalink Bridge   RAL Video System

Imperial College   Daresbury Laboratory   Site Ethernet

RAL Atlas Centre Computing Facilities

operated as a facility for all the Research Councils. The Cray X-MP/416 is the most powerful computer available to the academic research community in the UK and as well as its use in research areas as diverse as environmental modelling, drug design and aerodynamics it is available as a commercial bureau service.

The Cray X-MP/416 is operated under the UNICOS operating system, the hardware consists of four processors with 16 Million Words (128MBytes) of shared directly addressable memory, 1GByte of fast secondary storage and a peak computing speed of 940 million floating point operations per second.

Front-end services for the Cray X-MP/416 are provided on the IBM 3090 under VM/CMS, on a small VAX cluster under VAX/VMS and at a pilot level on SUN workstations running UNIX.

(iii) A Storagetek STK 4400 robotic cartridge tape store provides over 1Terabyte (one million million bytes) of file storage and archival space for the Cray and IBM services. Data in the cartridge store can be restored to the working disks in less than two minutes.

Consultancy Services

To support the supercomputing hardware services, the staff of the Atlas Centre provide comprehensive User Support services at all levels. In addition to the usual support staff and 24 hour service line there is a small group of in-house research scientists who are expert in the use of vector and parallel supercomputing and numerical algorithm development.

Specialist consultancy services are available in :

Graphics, including a Video animation facility

Personal Computer hardware and applications

Local and Wide Area networking

Scientific and Administrative Databases

Office Automation Services

Further Information from:

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