



Computing
Services

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The Cray Service: the Cray Y-MP8I/8128 computer

The Cray Y-MP8I/8128 sited in the Atlas Centre at the Rutherford Appleton Laboratory is available for research supported by any of the five Research Councils or the British Academy.

The Cray Y-MP has an eight processor chassis with integrated I/O sub-system, eight processors and 128 megawords of memory.

The clock cycle is 6.0 nanoseconds and each of the eight processors has a peak performance of 333 megaflops, giving an aggregate peak performance of 2.7 gigaflops, (thousand million floating point operations per second).

Storage

The Cray has two sets of disk drives: 47 gigabytes of high speed DD60 disk drives (up to 24 megabytes per second) and 53 gigabytes of slower DD61 drives (up to 3 megabytes per second). For performance-critical areas like program swap space, the DD60 drives are "striped" so that I/O across more than one drive can take place in parallel for a higher bandwidth. Most of the DD61 disk space is used for users' permanent data, and most of the fast DD60 space for important system files, swap space, and the more heavily used temporary files.

Reel and cartridge tape drives and the Automated Cartridge System, (the Storage-Tek 4400) are accessible from both the Cray Y-MP and the IBM 3090.

Y-MP8I/8128

- 8I eight processor chassis with integrated I/O sub-system
- 8 eight processors
- 128 128 megawords of memory

47 gigabytes DD60 disk drives
53 gigabytes DD61 disk drives

Access

The Cray Y-MP8I can be accessed directly via TCP/IP, or via one of the Front End machines which provide file editing and job submission facilities. These include an IBM 3090 running VM/CMS, an IBM RS/6000 running AIX™ and a VAX 3600 running VMS. See diagram overleaf. More detailed information on access to the Cray may be found in the leaflet *Quick Guide to using the Atlas Centre Cray*.

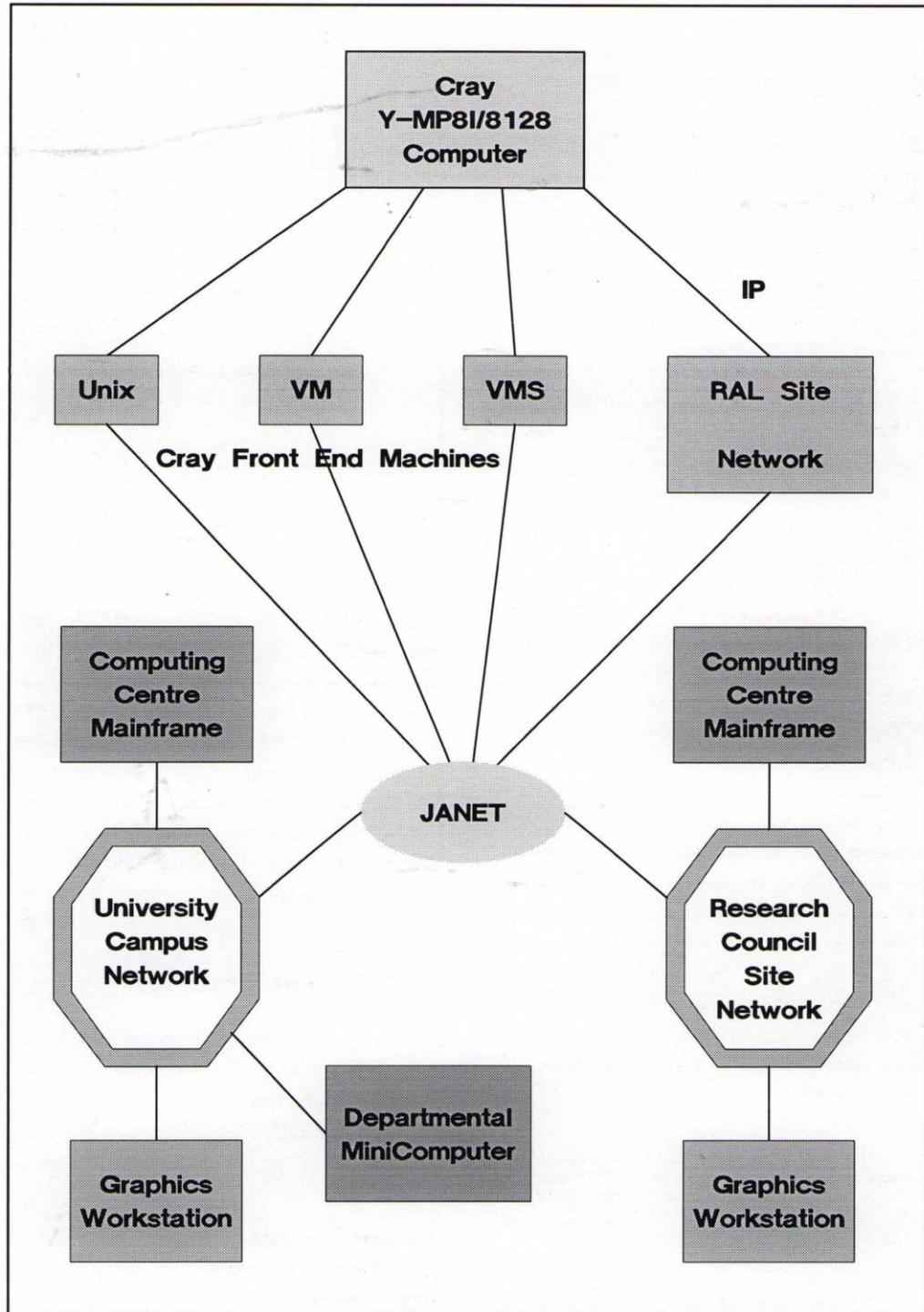
Further Information

For further information about the hardware, contact:

The Operations Manager

Tel: Abingdon (0235) 44 6253

Access to the Cray





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The IBM Service: the IBM 3090-400E computer

The IBM 3090-400E has four processors which run as individual units, but have the capability of working together in processing a particular program, or for each to be assigned to a particular task. Each processes fifteen million instructions per second on average.

The interactive operating system, VM/CMS, allows users to create, edit and delete their own files interactively and run jobs in their own "virtual machines". There is also a computerised office system, which handles personal diaries, arrangement of meetings, lecture room bookings, document preparation and distribution, and mail.

Communications software (RSCS) also runs on these processors.

Batch jobs (programs with accompanying data, which are no longer under the direct control of the user), are run in the SLAC Batch system. These jobs range from the local stores inventory to the most complex scientific research project.

Storage

The IBM 3090 has 256 million bytes (megabytes) of main storage (a byte is eight bits, and can hold one character) which is shared by the four processors. It also has 256 megabytes of fast access storage (expanded

storage). Data, such as programs or scientific results, can be stored on magnetic disks; the total capacity of 100 gigabytes is increased by data migration to the Storage-Tek 4400 cartridge store, which is also accessible from the Cray Y-MP8I/8128. Hence all data referenced in the previous month or two can be accessed without manual intervention, and with an average delay of less than one minute.

IBM 3090-400E

4 × 15 MIPS processors

256 megabytes storage

256 megabytes expanded storage

100 gigabytes of disk store

Data in the tape library (<80,000 tapes) is accessed via the sixteen "round tape" drives and four "square tape" (cartridge) drives.

Further Information

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