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SCIENCE AND ENGINEERING RESEARCH COUNCIL
RUTHERFORD APPLETON LABORATORY

COMPUTING DIVISION

DISTRIBUTED INTERACTIVE COMPUTING NOTE 851

IKBS COMPUTING INFRASTRUCTURE
Tender for VAX systems (Draft 2)

Issued by
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IKBS/Policy/Computing Infrastructure file

Please let me have any comments on this draft by Thursday 14th July 1983.

Tender for VAX Systems

Draft 2

1. INTRODUCTION

The SERC is considering the purchase of eight VAX 11/750 architecture systems to be installed at a number of university departments to support IKBS/artificial intelligence and Software Engineering research.

2. SPECIFICATION

2.1 VAX

The configuration should include:

- a. VAX 11/750 CPU.
- b. 8 Mbyte main memory.
- c. Minimum 750 Mbyte on line disk storage. This should EITHER be supplied on exchangeable disks distributed over at least two drives OR by winchester disk with 6250 bpi tape backup up. Complete disk backup must not take more than 2 hours.
- d. 16-line terminal multiplexer, DMA interface. The asynchronous ports are required to operate with at least speeds of 300, 1200, 9600 and 75/1200 bps and with CCITT V24 electrical interface. Modem support is essential.
- e. Printing console typewriter.
- f. 9-track 1600 bpi tape deck. If the tape deck is required for disk backup then it must also have 6250 bpi capability.
- g. Upper and lower case printer, approximately 300 lpm.
- h. Floating point accelerator.
- i. Unibus.
- j. Please state availability and cost of an LSI/11 with interfacing according to the specification in Appendix D. This will be used as a front end processor for the provision of networking capabilities. If this is not supplied the cost of obtaining it from an alternative supplier will be included in the assessment of the manufacturer's response.

2.2 Information Required

- a. Please state the number of spare unibus slots available on the proposed system after installation of the peripheral equipment contained in this specification.

- b. Please state what unibus expansion capability could be provided as a future upgrade.
- c. Please state how on-line disk would be interfaced ie unibus, massbus or other.
- d. Please state on-line disk storage expansion capability.
- e. Please state cost of increment of on-line disk storage capability.
- f. Any conditions relating to the use of particular manufacturer disc packs should be clearly stated.
- g. Please state main memory expansion capability.
- i. Please state cost of increment of main memory up to maximum capability.

3. BENCHMARKS

The definitive Benchmarks will be provided to Tenderers. For each Benchmark program, the Tenderer is required to run it on the proposed configuration. For a description of the Benchmarks see Appendix B.

4. MAINTENANCE

Hardware maintenance will be required only during prime shift. The machines will be run 24 hours a day, 7 days a week.

Please quote on the basis of the machine locations listed in Appendix A.

4.1 Response Level

- a. At least 24 hour response is required.
- b. Please quote for 24 hour response and 8 hour response.

4.2 Remote Diagnosis

- a. Please state whether or not remote diagnosis is offered as part of the maintenance contract.
- b. State what costs would be associated with its use.

5. SOFTWARE

5.1 User Software

- a. The system will be used to run the Berkeley Unix operating system. The supplied system must therefore be capable of running this system. Please confirm that the proposed system has this capability.
- b. The Berkeley Unix operating system will be supplied and maintained by the SERC's Rutnerford Appleton Laboratory. Please confirm that this arrangement is agreeable to you, especially with respect to fault diagnosis and reporting.

- c. The systems will have to meet the networking requirement of Appendix C. In the short term it is intended to use LSI/11 front end processors and software developed at the University of York under contract to SERC. Please confirm that this arrangement is agreeable to you.

5.2 Supplier Software

- a. It is important that the manufacturer has a commitment in the long term to supporting Unix. Please state commitments and timescales.
- b. It is important that the manufacturer has a commitment in the long term to meeting the networking requirement (Appendix C) over Unix. Please state commitments and timescales.
- c. Please state what diagnostic software will be supplied.

6. ACCEPTANCE TESTS

- a. The Tenderer should provide a schedule of the manufacturer's tests which will be run.
- b. The benchmarks will be run as part of the acceptance tests and the timings must be within 10% of the figures quoted in the tender.