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SCIENCE AND ENGINEERING RESEARCH COUNCIL  
RUTHERFORD APPLETON LABORATORY

COMPUTING DIVISION

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Meeting with Racal Decca at RAL  
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W P Sharpe

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Present: D Hawkins, Racal  
S Rhodes, Racal  
D B Thomas  
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INTRODUCTION

The meeting was held at Hawkin's request. His main motivation was to get SERC interest in Racal developing and supplying a LISP machine for the SERC IKBS community.

BACKGROUND

Hawkins spent 15 years with Schlumberger and for the last 2 was in charge of their AI/expert systems developments. He joined Racal last year to run their expert systems group which is targetted in the first instance at the petrochemical industry. Hawkins is one of the industrial consultants on the IKBS architecture study.

COMMERCIAL SYSTEMS

Hawkins acquired an LM2 LISP machine last autumn. A couple of programmers have produced a demonstration expert systems package from scratch, without previous LISP experience since last November (about 2000 lines of code). Hawkins was impressed by this level of productivity. The demonstration package synthesises a model to match user description, propagates effects and has explanation facilities which display data in the same form as used by the experts. The typical problem involves assessing likely minerals present in an area from about 200 possibilities, using 10 different metrics. The expert user helps to prune the search tree. Racal are getting Shell, BritOil, British Gas and BP to supply them with data and algorithms to teach the system with. They expect to have a commercial package available by next January. They intend to provide complete custom built system for specific companies, with a commitment to provide and maintain all the h/w and s/w.

A major obstacle they expect to meet in trying to sell their systems is that all the potential buyers have been brought up on DEC systems.

They can see a potential market of a thousand or more machines over the next few years in the petrochemical industry.

#### ACADEMIC SYSTEMS

They are essentially looking for a low risk market entry route by getting backing from SERC to produce a high performance SU/LISP machine. They have talked with ICL who told them that they did not want to attack the high performance LISP machine market. Racal do not intend to start from scratch, they intend to base their product on repackaging of the MIT original. The likely price is around £40K. They think that SERC should back a UK manufacturer producing this sort of product just as it supports the PERQ. They would like a SERC informal commitment to buying a substantial number within a few years, which commitment would act as a brake on VAX procurement and investment in other LISP machines.

DBT agreed that there should be 'common base' machine and that there should be a UK manufacturer. He encouraged them to work up a proposal for SERCs consideration and pointed out that SERC might well have computing proposals to consider.

It was stressed that for such a proposal to gain acceptance they would have to show how their machine would fit in with the whole SERC Common Base.

Their machine currently runs ZETALISP. Apparently Upsala have recently put Prolog on as well. The display is made by Philips.

Hawkins has contact with Lake Steels, formerly of MIT, who is now professor of AI at Brussels University. He is said to be a top AI man who will churn out s/w for the first good machine to come his way.

Racal will aim to have a complete proposal within three months.