~~RKBS/pgm~~ My Dic Ref.

COMMERCIAL-IN CONFIDENCE

SCIENCE AND ENGINEERING RESEARCH COUNCIL
RUTHERFORD APPLETON LABORATORY

COMPUTING DIVISION

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Meeting with Logica
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W P Sharpe
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DISTRIBUTION:
F R A Hopgood
R W Witty
K Robinson
W P Sharpe
Ext Links/Industry/Logica

PRESENT:
D B Thomas
W P Sharpe

Joe Marks
Robert Worden

(see next page)

1. PURPOSE

The meeting was held at Logica's request, with DBT acting as a representative of the Alvey directorate for Logica to discuss their IKBS workstation ideas and get some idea of whether Alvey support might be available.

2. LOGICA IKBS MACHINE

Like other companies Logica have reached the conclusion that there is room in the UK for a competitor to the Symbolics machine in the next generation of IKBS workstations. Phase I of their project is just completing and was a study of the basic architecture of the machine they would like to produce. They funded this study themselves and put together a team of 5 Logica and 5 academics - Norman, Fitch, Clocksin, Peyton-Jones (UCL), Willis (Bath). They paticularly aimed to get a balance of expertise in functional/logic/Lisp/Prolog programming and some hardware expertise. Their aim is a machine that will support the coming generation of declarative languages as well as the present day Lisp and Prolog. They signed up the academics with individual MOUs with the knowledge of their respective university departments.

They are now looking for funding for phase II of the project. They want about £100K for a six month study to work out a detailed $2\frac{1}{2}$ year plan that would take them to the prototype stage. They are discussing funding with MoD (RSRE) but were only moderately hopeful that MoD could find the money at the moment.

Phase III would be targetted to bring the machine to medium scale manufacture within 1 year.

The meeting was short so there was not time for a detailed technical description but the main points were as follows:

- Looking for 50 nsec cycle time processor using ECL ie. approaching 10 Mip.
- Extensible WCS 64-128K.
- Extensible memory up to 64 MByte
- Parallelism on the Bath bank multiprocessor (non shared memory) design.
- Asynchronous processing of memory to allow real time garbage collection (two place copying).
- They understood that a high quality display must be designed in from the start and were keen for collaboration with ICL for this (see below).
- Kernel coded in BCPL, PSL and CL over the top. They were confidently predicting a convergence of Prolog and Lisp virtual machine order codes. Conversion packages to allow some parts of Interlisp to run. Unix does not feature high in their plans because they see AI language environments as the natural way to go.

The cost of the project is estimated at £3M over 3 years. The target price for the final system is £30K at today's prices.

They have not based their plans on a market survey, just on a general conviction that this sort of machine is going to be needed. At the moment they have company commitment at group director level; David Mann is involved in discussions with ICL together with Joe Marks. Apparently they have contacts with Vince and Watson and have been discussing ICL providing the expertise to build the machine and also integrating it with the PERQ display/rasterop hardware and the DMI, high speed LAN distributed system. There is some conflict in the latter area since Logica already have some of their own ideas about distributed systems. The incomprehensible part of all this is that they have no contact with the PERQ design team and the PERQ team (as represented by Lever) were actually saying at the meeting to discuss PERQ developments that they would like collaboration with someone like Logica. Logica said that negotiations were continuing with ICL and that they would only be satisfied with a commitment from Wilmot.

3. CONCLUSIONS

Logica were told that Alvey action in this area could be expected in September.

If Logica cannot get MoD money for phase II they will apply to Alvey for it.

Someone needs to sort out ICL.

Typed and distributed in W P Sharpe's absence.

CinCl/28
jg