SCIENCE AND ENGINEERING RESEARCH COUNCIL

RUTHERFORD APPLETON LABORATORY
COMPUTING DIVISION

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VISITS

Notes on a visit to Dr I C Wand,
University of York, 15 March 1982.

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1   X25 EMR CONTRACT

The EMR contract was discussed with Ian and Keith Ruttle.

The basic software is now reasonably tidy (including xxx) but one or two
of the long standing problems remain to be cleared up. These appear to
be subtle real time problems which cause the front-end to crash or the
link to seize up. Frequency is about one occurrence per day.

Keith has FTP80 working between the 10 and the 11 for the transfer of
character files. This is based on the UCL code. Some work remains
before FTP80 will be complete, essentially concerning restart facilities
in the protocol. This is estimated to be 2-3 weeks work. The UCL code makes
no provision for the transfer of binary files, so more work is necessary
there. Estimated delivery time for the first release is May - June 1982.

TS29 code is effectively complete. Work has not yet commenced on either
the Mail protocol code or the DMA link between front-end and host. Keith
hopes to pick up the UCL Mail protocol code, which uses the same FTP
interface as Keith is providing.

Version 0 documentation is almost complete.

Installation seems to be taking far more of Kieth's time than was
anticipated. The Newcastle installation seems to be going reasonably well -
when Keith went up the discs on the 45 went down; but subsequently Fabio
has completed the software installation from Keith's instructions

to the stage where the front-end can be successfully loaded from the host. Newcastle are now waiting for Daresbury to install the line.

The major problems have been with the service sites at Exeter, Bristol and London, none of whom have UNIX systems expertise. Consequently Keith has spent a long time building systems. London and Bristol seem to be using non-standard hardware - they use a different EPROM board to the DCS systems and have no switch to turn off the clock. I agreed to take up with Barry Charles the load being placed on Keith by non-DCS sites.

Exeter want to use the software as a PAD only, to route as many incoming terminals as possible into their mainframe. This is not what the software was designed for, but despite the problems, Exeter are now happy with the system. None of the Computer Board sites has a UNIX system with a tape deck, so moving software to these systems is difficult.

Installation of Keith's software in Logica's Xerix system looks technically straight forward. This also needs to be persued with Barry.

Apart from the non-DCS site problems, the project is going well. The X25 software is now stable - it is SERCnet that poses the problems!

2   DCS PROJECT

Andy Wellings and Gerry Tomlinson continue to make good progress on the DCS grant. Kernel implementation has started and Gerry is firming up the File system design. PULSE is currently being built on top of UNIX, at some stage UNIX has to be slid out from under!

David Keefe, who joined the project in December is looking after the ring. He has implemented uucp across the ring, using the ring as a serial character transmission medium, replacing the RS232 driver in uucp with a simple ring driver. Throughput is adequate. The software provides remote login and file transfer.

The ring installation went very smoothly. The only outstanding problem is with the UMC board which does not function correctly into the VAX unibus. Logica are aware of the problem and have been in touch with ACC. ACC say a UMC has been used successfully into a VAX driver through VMS. York are trying to get a listing of the VMS driver. The symptoms suggest timing problems.

3   ADA COMPILER

York are running a one week ADA programming course at the end of March. Twenty-seven have signed up so far - York are very pleased with response which has come from all major UK software houses, MoD and two from aboard. Practical work is a major part of the course.

Most of ADA has now been implemented. Language features omitted now are generics, attributes, separate compilation of sub-units, private or derived types.

The compiler is somwehat large. The parser is 110K bytes code on VAX, the semantic analyser and code generator together are 330K. The compiler manager is 40K.

If the code to handle separate compilation is omitted, speed of compilation is 500-1000 lpm. The separate compilation code slows this down by a factor of 2.

The ADA Group (chaired by John Barnes) have expressed interest in the compiler - they want to market it prior to an APSE becoming available (estimated 1985/6). BTG have been involved in the negotiations. It appears that the York compiler is further in advance of the competition than first thought. Both the Teleso/t and Western Digital products seem weak and the German MoD project at Karlsruhe has run into difficulties.

York do not anticipate any major problems implementing the remainder of the language. A simple approach to generics seems perfectly acceptable. The only area of weakness in the team concerns the dictionary organisation and name management.

4   MISCELLANEOUS

Ian has now an FR80 username. He would like the Fr code.