2,000 statements (very few for commercial DP requirements), the number of statements executed per second varies from 50 to 250 depending on the nature of the statement (how long would an internal memory sort take?), and the transfer rate on the cassette tape is approximately 30 characters per second. No file security software is provided and the only convincingly safe way of securing files is to backup to tape. But to backup a typical personnel file of say 2,000 records would take approximately three hours. Would any system based on equipment like this ever be accepted by the user? Problems of this type are unlikely to be recognised by a 'naive' departmental head until they actually happen.

6. The role of the computer specialist

Micro systems are likely to introduce problems which are beyond the scope of the typical user either to recognise in advance or to tackle. Given time the user will solve the problems but in doing so he will do no more than again cover the ground which has been trodden at least twice during the last thirty years, first by scientific installations and later by commercial installations. It would seem that the programming problem will not be solved until reliable applications software becomes available generally in the marketplace. Even then there will still be a need for an advisory service for potential purchasers to ensure that the problems described in Section 5 can be properly anticipated. Such an advisory service will need to be provided by a computer specialist who will have been trained as a systems analyst but who will have needed to acquire additional skills and adopt a different attitude. In particular the systems analyst:

(*a*) will not himself be driving the change process, he will need to respond to the impetus for change generated by others;

(*b*) will need to advise departmental heads in a variety of areas such as the potential of and limitations of micro systems, the need for user involvement, hardware and software availability, purchasing strategies and problems of licensing agreements, maintenance procedures and staff training;

(*c*) will need to be aware of the total development and the potential for systems integration, either between departments or with the central mainframe computer facility or with other companies or utilities;

(*d*) will need to maintain user awareness of the changes in available technology and their implications for each departmental system;

(*e*) will need to act as a general troubleshooter in a number of unforeseen situations.

7. Conclusions

In a company in which a large number of departments plan to introduce micro systems for sole departmental use there will be a need for a systems analyst but the role of that analyst will have changed significantly. It may also be the case that there will be a need for an engineer to support the analyst. In a company where a central computer facility exists already, it should not be too much of a problem to release one or more analysts to undertake the necessary duties. In companies which do not have such facilities there is a different problem where a solution must come from outside.

Consultancies have, for a long time, provided advisory services of the kind described above and so there must have been a need for analysts who have been trained to adopt such an open approach. On the other hand computer departments in user installations have worked in a quite different way and all the existing courses (BCS Option D, NCC, BEC) reflect the approach of the user installation. There would seem to be a need for a new approach to what we teach.

References

HAMMERSLEY. P. *et al* (1980). New approaches to systems analysis and design, *The Computer Journal*, Vol. 23 No. 1, pp. 1-33.

Call for registration: First British National Conference on Databases

13, 14 JULY 1981
Jesus College, Cambridge

Following the success of the International Conference on Databases (ICOD-1) at Aberdeen, it was agreed to organise a second international conference (ICOD-2) in 1983 (20–23 September), with a British national series of conferences (BNCOD) held annually in between. The BNCOD series is meant to focus primarily on British work, although overseas papers are also welcome. This conference, the first of the British national series (BNCOD-1), is being organised jointly by the Aberdeen University Computing Science Department, The British Computer Society and Middlesex Polytechnic. Copies of the proceedings will be made available to delegates.

The full conference fee, including accommodation for the night of Monday 13 July and all meals, will be £45 for BSC members, £60 for non-members, and £25 for full-time students. The BCS member rate will also apply to staff of a recognised academic institution. (A surcharge of £10 will be made for late entries—i.e. after 31 May 1981.)

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