

EDINBURGH UNIVERSITY COMPUTING SERVICE

A paper presented to the Principal on the 30th November 1988

1. Introduction

Whilst reviewing the activities of the Computing Service, the main concern of this brief paper is the use of Information Technology across the University; the position today, the opportunities for the near future, and the relevance of the strategy being drawn up by the Computing Service for the Computing Policy Committee to support its submission to the Computer Board for procurement funds in 1990.

It cannot be stressed too highly that for all organisations, and especially Edinburgh University, given its pre-eminent position in the IT field over many years, a cohesive plan for the use of IT for all purposes should exist if the benefits rather than the problems of the explosion in availability of IT products and services are to be seen.

2. 1987/88 in review

By most measures, the Computing Service had a successful year; financially, we exceeded our budgetary targets for revenues, and controlled costs within budget; the now well established user support teams have delivered support to users across the faculties in a way which has often been praised and compared favourably with the previous arrangements; and we have increased both the reliability, quality and quantity of our computing and communications services through the introduction of new, and replacement computers, together with engineering changes and enhancements to the communications network. In particular, the main service vehicle, EMAS, now runs on a new more powerful and flexible single machine, a fact hardly noticed (in terms of disruption of service) by users, apart from the better response delivered for all work. Staff turnover has been a little higher than before, but this is an inevitable result of the change in outlook and objectives for the Service and has given us the opportunity to recruit staff more comfortable with the direction in which we are moving.

3. 1988/89 preview

We shall continue to improve in these same areas this year. Whilst some bureau-based revenues have declined, they are more than compensated by a steep rise in our consultancy income, particularly in the communications field. Even where revenues have been under threat, we have negotiated a three year agreement with DAFS for the provision of scientific computing support services which preserves the bulk of our income from that source. Furthermore, this year, there are further revenues from the completion of the implementation phase of an administrative computing strategy for DAFS funded institutes and colleges across Scotland.

I hope this year again to be able to negotiate some further computational resource, particularly to support the Institute of Petroleum Science if, as expected, that goes ahead. The completion of the development of the high speed backbone network at the KB site will improve the level of communications services provided there.

In terms of user support services, I have some forthcoming management changes, following our staff appraisal exercise, which will help in the provision of further direct support to the community.

A significant task this year will be to begin the transition project which will move the University forward from its current EMAS based main service to systems forming part of our emerging long term strategy.

4. 1990 Planning

This leads to the central theme of this paper, planning for the 1990's. Whilst it is fully recognised that the 1990 Computer Board procurement is just one source of funding as we move forward, nevertheless it represents an immense opportunity to get IT right for the future. EUCS services, particularly its communications resources, present a unifying influence, helping all University IT users - whether Library, MIS (Old College and remote Faculty and departmental offices), researchers, teachers and medical staff - to communicate and take advantage of common methods and protocols. CB money, although spent on centrally managed resources, will have an impact on every IT user in the University; it will increase productivity, reduce administrative overheads and improve access to information.

On re-reading my paper to you of last year, whilst the points it makes all remain valid today, my one disappointment is that we have not spent more time on the broader aspects of IT use in the University. Where do we stand today?

Progress has been very good on the 1990 planning as it affects services provided by EUCS. The planning team I set up in March 1987 has produced four major documents, having conducted, with the user support teams, the widest study of computing use in the University ever undertaken (the most recent Phase 3 draft strategy document is attached). Those documents published have been well received and I believe we are on the way to getting user acceptance of the academic computing strategy put forward.

The studies have included several meetings with the Library and MIS, and the resulting reports do raise the issues of management and funding of IT in the University. We are now at the point when a coordinated approach to the strategy would be beneficial. Computing Policy Committee members, and other representatives of users in the University feel that the time is right to address these matters.

5. EUCS, Library and MIS

It is certainly true that there is widespread acceptance of the point of principle that there should be no "private networks" in the University - a single communications strategy should address as far as possible all needs to provide a common service resource for these three main strands of service and to minimise costs.

The Library, however, have embarked on a programme of automation with the GEAC company whose equipment, for the foreseeable future, will be unable to support University standard protocols at the volume of use that this University will require. Whilst the new Library systems may offer the best in terms of the software application for library management purposes, the computing vehicle implied by this choice (GEAC's own machine) is highly non-standard, inhibiting integration with other University facilities. There are only vague promises from GEAC of improvements and standardisation in the future.

There will be integration problems with MIS too - whilst using standard IBM hardware and a widely accepted financial package, the communications tools implied by the use of these systems is IBM specific, and offers somewhat poorer performance over our standard academic networking to remote users than it does to local, directly connected users in Old College. This, of course, has caused much dissatisfaction and the extra cost in some cases of the maintenance of local information systems. The review of administrative computing being conducted at a national level offers another opportunity, not only to improve MIS services but further to integrate the use of IT as a whole.

Whilst we must live with these issues for possibly two or three years, a single strategy ought to be followed to extract the best value from any further investments in all of these areas.

6. Funding and Management

One accepts entirely the University's current financial problems, and the consequent caution with which new initiatives must be regarded. It is even more important in this situation, if money is to be spent on any computing and communications, or IT resources, that there is some plan against which to assess the relevance and utility of such expenditure. I contend that there is no such broad plan for IT, that the rate of expenditure is increasing, and that the demand for applications of IT will ensure that this trend will continue.

I am delighted to see the Telephone project proceeding. It was wise, some time ago, to look to the Computing Service to provide the leadership of this project; as a result, we have a plan which not only improves the voice network for everybody, but also allows, with much less incremental expenditure than would otherwise be necessary, the provision, for the 1990's, of a high speed University-wide network for data communications, without which the University could not possibly conduct any of its activities efficiently in the 1990's.

The financial impact of the telephone project reflects the situation for many properly devised computer upgrade plans. Maintenance costs are falling rapidly with the increasing reliability of modern systems, and greater functionality is offered for given capital cost. This often means that over a planning period the true cost of purchase or upgrade reduces, even allowing for the financing costs.

As we move forward with the penetration of increasingly sophisticated IT tools at all levels in the University, including widespread facilities for students, there will be areas that will require the University to think about how far it should support financially the expansion of IT use. I would suggest that if IT were addressed from an integrated strategic viewpoint, then lower costs in some areas would support expansion in others. As things are at present, there are natural pressures driving individual units to plan expenditure on a local basis only.

There seem only to be partial mechanisms to deal with these issues at present. The CPC nominally has responsibility for the broad scene, but has failed in the past to make its views count. The Library Committee is involved, of course, in Library automation, and the MISC addresses itself to MIS computing, but whilst there is some cross representation with the CPC, there seems to be no formal process through which conflicting interests can be handled. Informally, as suggested by the ERCC review in 1986, I chair a regular meeting (Computing Coordination Committee) with the Director of MIS and the Librarian to help communication between ourselves on matters of common interest. I am quite certain that encouragement is needed from the Principal for these University wide substitution issues to be considered, and for real management strength to be given so that, at the infrastructure level, a wide strategy can be adopted. This would provide a framework so that IT related initiatives could be seen to support and facilitate that strategy, rather than, at present, allowing a series of sub-optimal decisions to be taken for whatever good reasons, storing up potential problems for the future.

7. Staffing

The strategy for academic computing (draft attached), which in general terms matches the industry trends for commercial (MIS) computing, predicts a distribution of facilities towards the desktop - more computing done locally, with communications to centrally managed mail, filestore, large scale and specialised resources.

Whilst this infrastructure should be functionally managed centrally, to achieve the consistency of direction argued above, the local facilities and their support should respond to the day to day needs of the department, or user cluster concerned.

This will mean local line management of the computing staff concerned, although their professional function and career will again be functionally central. Our present user support teams are a step towards this, and eventually I see them located locally. In this way, both Library and MIS "applications" would be run locally, but with the service vehicles managed as

part of the infrastructure and chosen not only to support the application but also to fit the agreed IT strategy.

8. Summary

It is too easy from my position to see IT as the centre of the universe! But even allowing for my perspective, I believe it remains true that IT is a key enabling technology for the foreseeable future, across all facets of not only University life, but of course the industrial world and also society in general. It is too important, pervasive and expensive for the University not to have a global view, and to have more influence on the scope and direction of investments. We are as near to the 1990's, in planning terms, as we can get and still influence the first steps. Let us not miss the opportunity.

B.R.Sutton

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