THE UNIVERSITY of York

COMPUTING SERVICE

Development Plan and Draft Budget 1999 / 2000

1 Introduction

With the generation of the University's Information Strategy, the development activities of the Computing Service assume a more secure strategic focus. Most of the Service's expenditure relates to operational activities and hence it is crucial that the limited resources available for development are directed towards those areas which will gain the maximum benefit for the University.

Neither the University nor the Service currently has objective mechanisms for choosing between competing projects with a major IT content and, indeed, this will always require an element of judgement. Nonetheless, this is an active research area and the Service wishes to develop approaches which will enable decisions to be taken on a more secure foundation than is possible at present. These will require a better appreciation of both the costs associated with projects and the benefits which will accrue. Both costs and benefits will often involve several functional areas in addition to the Computing Service and hence a wider, more process-based, approach will be required in future. This relates well to the University's Information Strategy which is also based on a process approach..Implementing the University's Information Strategy, monitoring its effectiveness, keeping it under review, and taking advantage of appropriate opportunities as they arise will inevitably have a significant learning phase as experience is gained.

The main development areas proposed for the coming year include:

- implementing the University's Information Strategy
- replacement administrative computing systems
- development of web-based access to internal information, particularly that held in relational databases
- improving the performance and resilience of the infrastructure, particularly for PC services
- improving student computing facilities by upgrading some of the PC classrooms and associated infrastructure

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The Service proposes to undertake its activities over the next year with the aid of the following:

- a balanced scorecard defining key performance indicators for the overall contribution of the Service to the University and some specific initiatives to fulfil them - ***appendix 1***
- a list of proposed projects to support the Balanced Scorecard - ***appendix 2***
- an overall start budget for the core services provided by the Computing Service - ***appendix 3***
- a proposed list of development expenditure (hardware and software) - ***appendix 4***

Each of these is considered in more detail in subsequent sections.

2 Balanced Scorecard

The concept of the balanced scorecard as a mechanism to focus on key strategic performance indicators has been presented to the Committee on a previous occasion. The balanced scorecard requires the definition of a manageable set of key indicators (usually between 10 and 15) covering four areas of an organisation's activities:

- ***financial*** - a *backwards* look at profitability
- ***customer*** - an *outward* look at how well the organisation is currently meeting market needs

- ***internal*** - an *inward* look at the organisation's processes
- ***learning*** - a *forward* look at how well the organisation is prepared for the future - this is particularly important in a fast-changing area such as IT

The balanced scorecard thus has a strategic focus with indicators of strategic significance derived from University strategy. The proposed balanced scorecard is informed both by the recommendations of the Review of the Computing Service and on the University's Information Strategy. It is intended to develop the scorecard at a group or individual level within the Service and hence to interface to the staff appraisal system.

The balanced scorecard contains mostly continuing indicators where performance over time is of interest, but also contains some specific tasks which are crucial measure of the service's own performance in relation to the future of the University eg Y2K compliance and replacement administrative computing systems.

The balanced scorecard will evolve over time; the proposed scorecard is very much an initial compilation.

3 Proposed projects

Appendix 2 details a set of projects which the Service proposes to undertake during the year. These relate to the section on 'supporting the University's business processes' in the balanced scorecard. The Service does not have a comprehensive list of activities which individuals and departments might wish to be undertaken during the year, but the projects have been informed by the University's Information Strategy, developing technologies, and requests from departments and individuals. It is hoped that, as the University becomes more aware of the Information Strategy, the mechanisms for identifying and prioritising projects will develop, and future plans will be more comprehensive.

Those projects/actions which are explicitly identified in the Information Strategy are denoted with an 'S' before the project name and a proposed priority has been assigned to each project. It is very unlikely that all the proposed projects will be undertaken. In particular, there is likely to be little resource available for development work on the MIS systems with the start of the project for replacement of the administrative computing systems (to be funded separately), but it is hoped that some modest projects providing significant benefits can be undertaken as part of the core activities of the Service.

4 Core services start budget 1999 / 2000

The Service has an increase of ~£23k in its total budget for 1999/2000 compared with 1998/9, representing an increase of 1.7%. This is significantly less than inflation and is less than the projected increase in staff salaries (~£30k). This latter represents a 3.1% increase which, even without incremental drift, is less than the proposed cost-of-living increase of 3.5%, and has been achieved largely through the continuing stream of staff departures and their subsequent replacement at lower points on the scales.

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Although there are decreases in certain areas of the budget which are detailed in appendix 2, there have been increases in other items, largely as a consequence of inflationary increases in maintenance charges and software licence fees, together with the growth in the amount of equipment we manage, particularly to provide the main campus networking The net effect is to decrease the disposable funding of the Service ie that associated with purchase of hardware and software, either as replacements or to provide new facilities.

The start budget for the core services does not include two items which currently are funded separately: the YHMAN contract to provide external networking services, and the recent proposal to transfer funding of the external datacommunications links to King's Manor and the Borthwick Institute from the Directorate of Facilities Management to the Computing Service.

5 Capital expenditure (equipment and software)

Appendix 4 details the proposed capital expenditure as prioritised by the Computing Committee. A particular cause for concern relates to the inability to develop the general access PC provision and to maintain the systems at an adequate level of performance. With the growth in funded student numbers over the coming years, an above-inflation increase in funding to the Service should result which may enable these issues to be addressed.

Information Committee is asked:

- **to advise on the proposed balanced scorecard**
- **to determine the priorities of the proposed projects**
- **to approve a start budget for the Service**
- **to determine the priorities of proposed capital expenditure.**

Mike Jinks
Director

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Core Services start budget - notes:

1 The total salary costs have risen less than inflation, largely due to continuing staff turnover. If this continues during 1999/2000 the spend against budget will be reduced and, depending on the level and timescales, the resulting surplus could be used to off-set the drop in capital expenditure. The budgetary figures include the proposed pay settlement and have been provided by the Finance Office.

2 The networking infrastructure maintenance costs reflect the additional equipment purchased for the ATM campus network from last year's funding. It is to be noted that the network maintenance costs are now the largest single maintenance costs, reflecting the extent of the campus network and its pervasive and critical nature.

3 The international network charges were imposed at short notice by JISC last year and were levied initially on the University without any breakdown of the locations generating the traffic. The Committee agreed that the charges for 1998/9 would be borne centrally for the first year as it would not be possible to assign them to departments in the absence of information concerning the originators of the traffic. The charges for 1999/2000 have been fixed by JISC on the basis of the usage for 19998/9 and hence are now known - £21.5k. The Committee agreed that these charges should be devolved to departments where possible, subject to the standard minimum charge of £10 per invoice. The charges are levied quarterly and hence the annual threshold for charging will be £40. The central contribution reflects use from the general access PCs and workstations, the Colleges with mixed occupancy, Computing Service and other central use. It is likely that the basis for charging for 2001/2 will change yet again.

4 the increase in maintenance costs for servers reflects the increasing number of servers.

5 Some software in the supported PC connection is purchased on site licences rather than being a 'per seat' charge.

6 The decrease in hardware maintenance reflects the intention to replace some of the older PCs on maintenance with new ones which will be purchased with 3 year's warranty.

7 The increase in software licence fees for the general access PCs reflects the requirement to set up additional PCs in the Vanbrugh PC classroom after the Service's budget was agreed last year.

8 The decrease in datawarehouse maintenance and software licence fees reflects the purchase of a new system last year.

9 The MAC software licences have increased partly through inflation but also because of the introduction of the updated Personnel/Payroll system last year.

10 There is a continuing need to fund enhancements to the MAC system to reflect statutory and other changes. Much work was required last year to accommodate the student tuition fee changes and further work is needed. In addition, the number of Universities running the Powerhouse MAC software continues to decline, resulting in the costs of enhancements having to be shared among a smaller number of institutions.

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Proposed development expenditure - notes:

11 The need for filestore continues to grow as more people use more applications. We propose to increase the availability of filestore, both in terms of the available space and its resilience, with a major upgrade to the servers.

12 The introduction of international networking charges last year required developments to minimise the amount of international network traffic requested from York. In addition to using the national cache, we implemented a small local cache. This systems has become heavily loaded and introduces significance delays to serving web pages. We propose to install two more powerful local caches to improve performance and resilience.

13 last year we started the process of using multiple servers to provide the set of central servers, with some hardware platforms hosting several servers. The general growth in server use requires a further splitting of services on to another hardware platform.

14 A major project this year is to implement a logically separate classroom and office systems to improve resilience, particularly for the classrooms outside normal working hours. This requires separate servers to provide authentication of the user and to serve the standard desktop applications.

15 The development of the campus network with ATM technology continues to require additional switching capacity for both performance and resilience.

16 The increasing number of central devices (servers etc) attached to the campus network continues to require additional connection equipment in the computer room.

17 The introduction of the new language lab requires an upgrade to the feed to the Language Department, and dedicated fibre needs to be installed.

18 The major power failures in December 1998/January 1999 had a major effect on the reliability of the network for several weeks. We purchased some uninterupptable power supplies to support the most critical systems from the contingency budget, but need to ensure that such systems are available to support all our major systems and networking components.

19 Windows 2000 is scheduled to replace Windows 95 as the standard operating environment for PCs. Much development work need to be carried out on these system.

20 Following on from the annual survey of User needs, the Computing Committee has asked us to undertake an evaluation of bibliographic software packages with a view to purchasing a modern system as part of the standard PC desktop. This work will be carried out jointly with the Library.

21 We need to be able to demonstrate that we have sufficient software licences for our actual use of the relevant PC application software packages. Licence metering software is now available, and after much experimentation we have succeeded in getting it to work in a pilot mode in the complex environment of a University with many applications provided to many users. We need to roll this out to cover some of our applications software on a continuous basis and others on a snapshot basis over the coming year. This software needs to run on dedicated servers.

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22 These two items relate to note 13 and refer to the classroom part of the proposed splitting of the classroom and office PC systems.

23 The PCs in the Wentworth classroom have the highest priority for replacement.

24 With the implementation of the Syllabus Plus timetabling system, enhancements are possible to enable students to have web access to their personal timetable. The software to provide this needs to run on a dedicated server.

25 The staff PC training room used for small scale training has old PCs from offices. These are now unable to provide adequate performance for many of the application packages and need to be replaced by devices similar to those in the classrooms.

26 G/169 is capable of handling 69 PCs in the current configuration. It comprises 48 dedicated PCs with some spares which may be removed when systems need replacing elsewhere for repair. In view of the increasing demand for larger classes we wish to provide the full dedicated 69 PCs in future and need to replace the aging set of devices in the current room.

27 We wish to provide a small pilot facility for the Windows 2000 service in a non-bookable are.

28 Ideally the PCs in K/120 need replacing and brought up to the full complement of the room.

29 To improve backup performance, an additional tape drive to work in parallel with the current systems would be beneficial.

30 The network connection to the Library would benefit from a dedicated fibre feed.

31 The annual survey of user needs identified requests for the mathematical package MATLAB in addition to the current MAPLE system.

32 Software systems are being developed for distance learning management. These need to be evaluated if the University is to benefit from a coherent approach in this area.

33 Ideally the PCs in L/051 need replacing.

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