

## **SECOND REPORT TO THE COUNCIL AND THE GENERAL BOARD OF THE REVIEW OF IT INFRASTRUCTURE AND SUPPORT – THE OUTCOME OF THE CONSULTATION**

**January 2013**

### **Introduction**

1. This Review has its roots in the establishment in 2010 by the Planning and Resources Committee of working groups on organisational and financial efficiency, of which a key recommendation was for a review of IT infrastructure and support. The appointment of this Review Committee (hereafter “the panel”) was announced by a Notice of the Council in June 2011 (*Reporter* 2010-11 p901), and the panel submitted a report to the Council and General Board last Michaelmas Term. This report was subsequently published for consultation (*Reporter* 2012-13 p57).

2. The panel held two open meetings in November, where the discussions were lively, and received further written submissions from 34 institutions and individuals. There was a Discussion in the Senate House where 11 contributions were made and a number of further contributions were made via the on-line forum. This report to the Council and General Board summarises the consultation and sets out the panel’s final conclusions.

3. The panel would like to thank those who submitted written evidence, and those who attended meetings.

### **Summary of consultation**

#### *Who responded?*

4. Taking the written responses and Discussion remarks together, there were 25 individual and 16 institutional responses (some Discussion participants also submitted written material). Of the individuals the vast majority were IT staff, with the UCS being very strongly represented. Of the institutions, 5 responses were from Collegiate bodies, or individual colleges, 8 were from Schools, Faculties or Departments, with the Library, the UCS management and the ISSS making up the rest. At the open meetings, comments were not attributed, but the majority of the participants were IT staff, with the UCS again being strongly represented. The full list of responses is attached at Annex 1.

#### *The approach of responses*

5. The responses to the consultation varied widely; while some simply commented at a high level, others made criticisms of specific proposals, perhaps coupled with a high level comment. Some responses focussed on one or two narrow areas, often not among those covered by the report in any depth, and presented arguments for the way forward in those areas.

## Detailed points and responses

### *High level comments*

[NB – It is proposed below (para 17) that the title of the main Committee should be the Information Services Committee, rather than Information Services and Systems Committee as originally proposed. For consistency, all references in this report are to the ISC, not the ISSC.]

6. Of those responses that made high level comments, the overwhelming number were positive about the overall aims and intentions of the proposals. These include all 4 of the Schools who responded, and many of the other Departmental responses. Nevertheless those which were positive overall often had very sharp criticisms to make of particular proposals, which often resonated with the points made in the Discussion or the open meetings.

### *Principles*

7. In general, the principles were well received by those who responded to the consultation, and there were relatively few criticisms. One critical point made about the principles was that they should be more user focussed. The panel accepts this and adjusts Principle A2 to read:

**A2. As a leading University, in the UK and the world, we should expect the quality of our information services and systems to be commensurate with our standing. The strategy for the management and delivery of those services must be driven by the needs of our users for support of their teaching, research, learning or administration.**

8. While most responses which commented on this aspect were not opposed to the definition of minimum standards, a number of responses queried the use of the term “desktop”. The panel’s intention is that the minimum standard of services should be defined in terms of flexible access to a set of information services, which might be through a desktop device, but in many cases will not be. Mobile devices will also be important. The relevant principle should be adjusted:

**A3. Every member of staff whose role requires access to information technology should have, at minimum, access to a system providing an appropriate level of service.**

9. The point was made in one response that Schools and Departments could not be expected to deliver services to a particular standard that they did not have involvement in setting. It is clear that the standard must be set by the new Committee involving representatives of Schools, Departments and Colleges who will be involved in its delivery, as well as users.

### *Reporting line for the Director*

10. This was the single aspect of the report that attracted most criticism. There was very little support for the proposal that the new Director should report to the Registry, and many comments that this was inappropriate, as it risked making the provision of information services and systems too focussed on the administrative needs of the University, rather than the research and teaching needs.

11. As a result of the comments received, the panel has reconsidered its recommendation, and now proposes that the new Director should report to the Vice-Chancellor. The panel also recommends that the title should be adjusted to Director of Information Services.

12. On a related matter, the panel accepts the point made in the consultation that when seeking to recruit in the wider market, it will be important to stress that this role is in many respects similar to that of a Chief Information Officer, although that title is not appropriate for use within the Cambridge structure.

13. Recommendation C1 should therefore become:

**C1. The University should appoint a Director of Information Services, reporting to the Vice-Chancellor.**

*Structure of the proposed Information Services Committee and sub-committees*

14. There were a number of different criticisms of this part of the proposals. First, a number of responses felt that the committee membership as proposed did not contain enough IT expertise at the top level. Second, some responses stressed the need for better linkages between the ISC and other bodies, including Council, General Board and the Councils of the Schools. Third, and related to the first, there was concern that the proposed mechanisms were not adequate to ensure that user needs were effectively transmitted to the senior committee charged with formulating the strategy. Finally, the case was made for greater College representation, on the grounds that they are major users of the services provided by the central organisation, and may be an important part of delivering the minimum standard service for which the panel argues.

15. Concerns were also expressed about the proposed sub-committees. Although the two suggested sub-committees were not intended to be an exhaustive list, responses commented on the lack of coverage of teaching, and that the role of the Research sub-committee appeared to be too closely focussed on the supervision of HPCS.

16. The panel has reconsidered its proposals in the light of the comments made and agreed to suggest more explicitly the sub-committee structure than was done in the consultation draft of the report. The composition of the ISC itself also needs to be reconsidered, to get the right balance between competing needs.

17. To take the ISC itself first, the panel would recommend for brevity, and to fit better with the revised title of the new Director, that the Committee be simply titled the Information Services Committee (ISC).

18. On membership, as well as user representation, it needs to have people who are used to conducting University business at a strategic level, and be linked into other high level committees, notably the Council, the General Board, and the Councils of the Schools. However, it is not clear that it is necessary to have all six Heads of School on the ISC, and the panel would now suggest that the General Board appoint three of the six, for example, one from the two Humanities Schools, one from Biology/Clinical Medicine and a third from Physical Sciences/Technology. There should also be four members appointed by Council, one of whom should be external, and the other three of whom would be expected to chair sub committees as discussed below. It is proposed that the Council consult the General Board about these appointments. In response to the point about IT expertise, the panel concluded that the sub-committees were the most important part of the structure to have technical knowledge, although it would obviously be expected that Council would take into account IT expertise when making its appointments.

19. Given the total amount of business, the ISC will need strong sub-committees, and the panel feels the chairs of those need to be members of the ISC. While the final decision on sub-committees should be for the ISC itself, and the sub-committees should not be statutory, the panel would propose that there should be sub-committees for Teaching and Learning, Research, and Business Systems as well as a User Forum. The Registrary should be a member of the ISC and it is proposed that he would be chair of the Business Systems sub-committee. The panel proposes that the chairs of the Teaching and Learning, and Research sub-committees, and the User Forum, be chosen from members of ISC appointed by Council after consulting the General Board.

20. The panel would propose that the remainder of the ISC is broadly as previously proposed: two student members, one undergraduate and one graduate; and the one external member, appointed by Council, as mentioned above. In the light of the consultation, the panel would propose however that the College representation is increased from one to two, in the expectation that one should be from the Bursars' Committee and one from the Senior Tutors' Committee. It is also proposed that there should be a member nominated by the Library Syndicate, and scope for the ISC to co-opt one member.

21. Formally, the panel would suggest that in Ordinances, this membership is simplified to: the V-C's deputy, three Heads of School appointed by the General Board and four persons appointed by Council, (of whom three would be appointed after consulting the General Board, and the fourth would be an external person), the Registrary, and a Library Syndicate nominee alongside the two College representatives and the two students.

### *Sub-committee - Teaching and Learning*

22. Responses to the consultation commented that the first report neglected teaching provision. As discussed below at para 36, this was not because the panel did not consider it important, but more because it did not consider there were major issues with the provision that needed to be addressed in a strategic report such as this one. However, in the light of the responses, the panel would propose that there should be a Teaching and Learning sub-committee of the ISC. While the detailed arrangements are for the ISC, the panel would propose that this committee should subsume the current TLSSG, and should report jointly to the ISC and to the General Board Education Committee. Its remit would be to ensure that the provision is in place to support teaching. It should be chaired by a Council appointee to the ISC, who might, initially at least, be the PVC-Education. Some cross-membership with the Business Systems sub-committee might be useful for oversight of the work on Student Information Systems. Cross-membership with the user forum (discussed below) will also be important.

### *Sub-Committee – Research*

23. In the consultation draft of the report, research was discussed in its own section, but most comments concerned the proposed sub-committee of the ISC. It is clear to the panel that the recommendations need some revision.

24. The panel maintains its proposal for a Research Computing sub-committee, and would suggest that it be chaired by a Council appointee, who might, at least initially, be the PVC-Research. There will also need to be cross membership with the user forum. The panel sees two main roles for this sub-committee. First, it should have oversight of the management of the central research computing facilities. Currently the most significant of these is the High Performance Computing Service (HPCS), although CamGrid is also important. While it is proposed that the HPCS should be transferred from the School of the Physical Sciences to the new central organisation, it would seem sensible for the strategy for that facility (and any other central facilities) to be steered by an expert committee with strong researcher representation, rather than simply by the Director of Information Services. The second major role for this sub-committee is to ensure that the developing needs of researchers for computing facilities and support, including data storage, are met in the most appropriate way. The draft report was also criticised in the Discussion for neglecting to mention the support provided by some members of the staff of UCS, for researchers in such areas as numerical analysis, and applied mathematics, or for advice on computational problems that their Departments cannot easily provide. The panel stresses that there is no significance in the fact that this activity was not specifically mentioned; other important aspects of IT work were also not mentioned. Clearly, the strategy for the provision of this type of service, as with any other IT-related support for research, needs to be set, and this sub-committee would seem the most logical place to do it.

### *Sub-committee – Business Systems*

25. There was generally strong support in the responses to the consultation for the proposals on the University's Business Systems. But the panel felt it should be clearer in its proposals for the governance of the systems. The panel proposes that there should be a single sub-committee of the ISC, chaired by the Registry, which would be responsible for ensuring that these systems meet the needs of all users across the University. The constitution should be for the ISC to determine, but as well as senior leaders from the central divisions of the UAS, there will need to be School, Departmental and College representation. The panel would expect there to be representation from the User Forum discussed below and that there might continue to be user groups for each of the major systems. As well as the user bodies, which are not seen as decision taking, it may be that this sub-committee will wish to create further sub-committees to take less important decisions about the systems, to relieve the agenda of the main sub-committee. If that is done, it should be done in such a way that does not reduce the main sub-committee to a rubber-stamping operation.

### *User Forum*

26. One of the major concerns expressed was that the committee structure did not make sufficient provision to ensure a strong representation of the user voice at the highest level. In response to this, the panel proposes that there should be a strong structure to represent users. The exact constitution should be worked up by the ISC in conjunction with the new Director and others. It may be better to have a single group, or separate but co-ordinated, groups for the main areas of Teaching and Learning, Research, and Business Systems. What is important is that there should be strong representation of the user voice on the sub-committees, and, through the overall chair of the forum, on the ISC itself. The overall chair should be an experienced user of IT in teaching and/or research, and should be one of the Council appointees. This will be a key appointment. Support for this Forum will also need to be carefully considered, so that it can co-ordinate and operate effectively. It is envisaged that this group would have a membership containing academic staff, administrators as well as computer officers from the Schools, Colleges and Departments. The panel would expect that the membership of this Committee would draw on some of the people appointed as School academic leads for IT, and as School leaders from among the IT staff, as discussed in para 40.

### *Sub-committee - Operations*

27. The proposal for an Operations sub-committee was not widely commented on in the consultation responses, but the panel has reconsidered the recommendation in the light of the analysis of the other sub-committees. In the report published for consultation, the proposed Operations sub-committee had a number of distinct roles: overseeing the delivery of services by the central organisation; provision of

technical advice to the ISC; co-ordination of delivery with Schools' and Departments' services, and ensuring minimum standards are met; and promulgating best practice. While it is clear that these tasks need to be done, it is not clear that they would all best be performed by a single group chaired by the new Director. Further it is not clear that the panel should prescribe operational arrangements to the new Director, particularly in respect of the services to be delivered centrally. The panel's view is therefore that the Director will need to put in place arrangements for co-ordinating delivery and technical advice as necessary with Schools, Departments and Colleges, building on the successful work of existing groups such as the Joint Network Management Committee.

28. As a result of these considerations, the recommendations B1 and B2 have been revised and expanded to read as follows:

**B1. The Information Strategy and Services Syndicate should be replaced by a strengthened Information Services Committee (ISC) which is better equipped to shape and drive the provision of high-quality information services and systems across the University.**

**The membership of the Committee should be:**

- **The Vice-Chancellor, or a deputy, as Chair;**
- **Three members appointed from among the Heads of School by the General Board;**
- **Three members appointed by the Council, after consultation with the General Board;**
- **One external member, to be appointed by Council;**
- **Two members appointed by the Colleges;**
- **The Registry;**
- **One member nominated by the Library Syndicate;**
- **Two student members, one undergraduate and one graduate;**
- **Up to one co-opted member.**

**B2. The ISC should be free to determine the final details of sub-committees, but the panel recommends that there should at least be sub-committees for: Research, Teaching and Learning, and Business Systems, as well as a User Forum. The Business Systems sub-committee should be chaired by the Registry; the other sub-committees and the User Forum should be chaired by Council appointees to the ISC.**

#### *Merger of the two central organisations*

29. The response to this recommendation was mixed but only a few responses expressed outright opposition. Some acknowledged the logic of a merger but expressed concern that, if not handled correctly, it could be harmful, particularly considering the different cultures of the two organisations. Other responses, while not opposed, commented that the case for a merger was not made as well as it could have been.

30. The panel is clear that the overriding reasons for a merger are: to ensure there is one organisation, under a single leader, with overall responsibility for delivering central services; to get the best of the considerable strengths of the existing organisations, while also driving improvement and a more clearly user focussed approach, and to enable the development of better career structures and opportunities for staff, and to support value for money.

31. As for the merger itself, the panel's view is that work should start as soon as possible under an implementation group which will need to be given a significant budget for managing the merger. The panel expects the implementation group to develop quickly a costed strategy for delivering the merger. But the panel is also clear that this is a process which will take time; experience from other Universities makes that clear. It needs to be planned and carried through properly, respecting the best of the existing cultures.

32. The panel suggests that the name of the new organisation should simply be University Information Services.

33. A number of responses to the consultation commented that the review panel had not considered the IT services provided by the Library, and in particular had not commented on whether CARET should be part of the proposed new central organisation. The panel has examined this issue in consultation with the Librarian. The UL's focus is on the development and delivery of digital content as part of its core remit, relying on the infrastructure provided by others, and the panel could see no reason to change that, while noting the importance of good communication between the Library and the central committee and delivery structures. On CARET, the conclusion is that it should remain an important focus for innovation in the University, free from the day to day need to deliver services to users. The panel felt that the right model would be for systems developed by CARET to be delivered to the wider University by the central organisation, and the resourcing of their delivery should be agreed by a similar process to that for any other service. As for the institutional home for CARET, the panel felt that the UL was currently the right place; there was synergy with the UL's work on delivery of digital content. It was also felt that financing of CARET should consist partly of a core budget, ring-fenced from the rest of the UL budget, supplemented by resources for projects specifically commissioned by other bodies such as the ISC.

34. As a result, the recommendation C2 becomes:

**C2. The UCS and MISD should be merged into a single organisation, University Information Services, under the leadership of the new Director as soon as possible. This merged organisation should also include the existing High Performance Computing Service, but not, at the present time, CARET.**

*Central Services*

35. On central services, the first group of comments concerned the proposal for a centrally provided desktop service. The comments were generally supportive, while stressing that: such a service would need to be flexible enough to support the varying needs of the academic community; that it would need to support a variety of operating systems; that it would need to operate with a range of mobile devices, delivering services through web browsers. The panel agrees that the service would indeed need to meet these criteria, and recommendation C4 has been adjusted accordingly.

36. The second group of comments concerned services currently provided, but which were not mentioned specifically by the report. Some responses seemed concerned that the lack of a specific discussion meant that the panel was recommending that the service was unimportant or even should be discontinued. Examples included the Managed Cluster Service, the work on security issues, the extensive training provision of both UCS and MISD, and the support for computational work in research. It was never the intention of this report to be an exhaustive review of every aspect of IT provision in the University and the panel emphasises that it is not making any specific recommendations on these areas of work, beyond the fact that they are covered by the general recommendation C3. These services should continue as at present, but of course they should evolve as needs and priorities change, and that process, and the resources devoted to those services, will be overseen by the new ISC.

37. In the light of the consultation, the panel adjusts recommendations C3 and C4 to read as follows.

**C3. The existing central provision of services including (but not restricted to) e-mail, the backbone network, the JANET connection, security, and training as well as the provision of information services such as CUFS, CHRIS and CamSIS, should continue, with future priorities determined by the ISC.**

**C4. There should be a central service that offers an affordable but flexible supported “desktop” service to Schools, Departments and Institutions, accessible by mobile devices, and supporting a range of operating systems.**

#### *School structures and IT Co-ordinators*

38. It is clear from the responses that a single prescriptive model for organising IT support will not fit all Schools, although there was no disagreement with the central premise that decisions about the provision of IT in Schools, Faculties and Departments should remain devolved to the appropriate level. However, one School with larger Departments tended to see the School role as more concerned with influencing central provision than with management of its own provision, which is currently the role of its Departments. Similarly a large Department (in a different School) was reluctant to cede any control to School level of its IT provision. Another point made was about the potential loss of local autonomy and reduction in

responsiveness to Departmental needs which might result from School level teams, Responses from Schools consisting of more medium sized Departments and Faculties were more positive. Other responses supported the idea of School responsibility, but queried what would happen if a School failed to deliver.

39. There were similarly mixed views on IT co-ordinators, and whether this should be an academic or a member of the IT staff. There was a question of how their efforts should be split between: actively managing IT services in the School, and its Faculties and/or Departments; co-ordinating across the School to make sure user needs were delivered; or influencing the centre to ensure that the centrally managed services meet the needs of the School.

40. In conclusion, while Schools will vary in their precise needs, the panel is convinced there is a need, at School level, for both an academic “user” lead and a leader among the School’s IT staff. The details of these roles will differ between Schools. In a School with large Departments, where those Departments retain complete responsibility for delivery, the role of the senior IT person within the School will obviously differ from a case where the School is taking on service delivery and the IT staff are employed at School level. But in any case, close co-operation between the academic and technical leads is key, and both roles will need to be well integrated with the School’s own internal decision taking processes. Between the two roles, they will need to ensure that the three key tasks in para 39 are covered.

41. The recommendation D2 should be reworded as below:

**D2. Each School and non-School Institution should identify or appoint one or more IT Co-ordinators from among the IT staff in the School. Each School and non-School Institution should also appoint a senior academic (or equivalent) as the user lead.**

### *IT Staff*

42. The majority of comments on this section were very positive, and particularly so on the panel’s analysis of the problem in the consultation paper. There was a clear message from the responses that this is an area where the University needs to do better. However, linked to the discussion of possible School-level organisation of IT staff, a point was made about the way in which many IT staff gained great satisfaction from “running their own show”. Nevertheless, the panel stands by its original recommendation, strengthens it to make it clear that reform should take place, and feels it should be taken forward as soon as possible. The panel also notes that the implementation will need care, and that the same precise model may not work for all parts of the University. Recommendation E1 therefore becomes:

**E1. The University should reform the career structures and employment arrangements of its computing support staff with urgency, with the aim of improving the mobility of individuals and the flexibility of teams.**

### *Information Systems*

43. There was strong support for the panel's proposals in this section, and the panel expects that the proposed Business Systems sub-committee, coupled with strong user groups, will have the membership and commitment to ensure these proposals are taken forward by the new central organisation.

### *Research*

44. The key points made in response to this section are discussed above under the heading of the research sub-committee at para 24, and there is little to add here. However the panel accepts the point that the discussion in the initial report was perhaps too focussed on high performance computing, and has sought to address that in some re-working of the discussion in the report. The Recommendation G2, which discussed the Research Sub-Committee has been subsumed into recommendation B2.

### *General and Presentational points*

45. Some responses commented that the case for change, and the associated benefits were better set out at the consultation meetings than they were in the report. For the record, the panel stresses that it sees the key benefits as being:

- Clarity on the standard of service that people, staff and students, can expect, alongside clear accountability for delivering services to an agreed standard;
- A strategy and process to determine which services should be provided, and the investments to be made in them;
- Systems that will allow for the user voice, from every part of the collegiate University, to be clearly heard at every stage of development of provision;
- Better conditions and opportunities for IT staff;
- Better overall service resulting from better investment of our resources.

46. Other points made in responses were that there was too much emphasis on the administrative needs, and not enough on those of teaching and research, and that the message about users being put clearly at the centre of the strategy did not come across clearly enough. The report has been redrafted in some places to address those points, including in principle A5, which now reads:

**A5. The University needs information systems that support its central objectives of teaching and research as well as promoting efficient and effective administration and supporting its statutory reporting requirements.**

### *Detailed points for the future*

47. A number of responses to the consultation made detailed suggestions on very specific points about the way IT services are managed or delivered in the University. The panel has concluded it does not wish to respond to these points specifically in what is a strategic review, but, assuming the recommendations are accepted, they should be noted for the implementation work, and future development of services. These points included:

- The status of staff, and in particular the distinction between Officers and other IT staff;
- A proposal for a more formal system of internal consultancy, where individuals and groups of IT staff could offer their specific expertise to others;
- Concerns about graduation photography provision;
- Concerns about the quality and usability of the reporting tools associated with the major business systems, and the need for the area to be reviewed so as to focus more clearly on the needs of the users;
- An approach to identifying, and then supporting, (including warranty work) machines suitable for students undertaking particular courses of study.

### *Conclusion*

48. In conclusion, the panel feels that the consultation has been an immensely useful exercise, and is very grateful to the people and institutions that took the trouble to respond for the many very helpful points. As set out above, the panel wishes to maintain the main thrust of its conclusions and recommendations, while making a number of significant changes, particularly around governance issues, to address concerns and sharpen implementation. The panel is also glad to have had the chance to address points in the original report which have been misunderstood, and a revised draft of the full report is attached to cover many of these points, as well as those discussed here.

Annex 1 List of responses to the consultation:

Written responses were received from:

### **Institutional Responses**

Emmanuel College Information Systems Cttee  
Department of Physics  
College IT Managers' Group  
Computer Laboratory  
School of Technology  
Colleges' Standing Committee  
University Library Syndicate  
Dept of Materials Science and Metallurgy  
Senior Management of the UCS  
Department of Plant Sciences  
Girton College  
Faculty of Mathematics  
School of the Humanities and Social Sciences  
ISSS  
School of the Physical Sciences  
College Bursars ITT Sub Cttee  
School of the Biological Sciences indicated support.  
(17)

### **Individual Responses**

Cara Donnelly (DAMTP)  
Jenny Barna (SBS)  
Barnabas Baggs (UCS)  
Gary Watson (UCS)  
Dr Mark Darlow (MML)  
Dr Ruth Charles (UCS-Newnham)  
Liz Mackie (MISD)  
Brian Simpson (UCS)  
Richard Farndale (Biochem)  
Helen Sargan (UCS)  
Frances Foster  
Bob Dowling (UCS)  
Don Manning (UL)  
Martin Keen (CSCS)  
Richard Bartlett (CSCS)  
Dr Ian Lewis (UCS)  
Nick Maclaren (UCS)  
Jon Warbrick (UCS)  
(18)

### **Participants in the Discussion**

Prof Howard Chase

Richard Stibbs (UCS)

Dr Ian Lewis (UCS)

Dr Ruth Charles (UCS)

P Mazumdar (UCS)

Nick Maclaren (UCS)

David Goode (Divinity)

Jon Warbrick (UCS)

Bruce Beckles (UCS)

Julian King (UCS)

Brian Omotani (UCS)

Ronald Haynes (UCS)

## **ANNEX 2**

### **SUMMARY OF PRINCIPLES AND RECOMMENDATIONS**

#### **Principles**

**A1. The aim of this Review has been to make proposals to help the University obtain the best value from its considerable investment in IT, not to cut costs, and in doing so to provide as well as possible what users need. There is absolutely no intention that this review will lead to redundancies.**

**A2. As a leading University, in the UK and the world, we should expect the quality of our information services and systems to be commensurate with our standing. The strategy for the management and delivery of those services must be driven by the needs of our users for support of their teaching, research, learning or administration.**

**A3. Every member of staff whose role requires access to information technology should have, at minimum, access to a system providing an appropriate level of service.**

**A4. Every student should have access to the computing facilities and network services necessary for their course.**

**A5. The University needs information systems that support its central objectives of teaching and research as well as promoting efficient and effective administration and support its statutory reporting requirements.**

**A6. The governance and organisation of information services and systems should be driven by a strategy that is based on a clear understanding of user needs. The strategy needs to respond to and exploit the opportunities provided by technological developments.**

**A7. In order to provide world-class information services and systems, high priority should be given to the support, development, and retention of talented and committed computing support staff. The University should provide these staff with high-quality career opportunities, and make the best use of their skills.**

**A8. In Cambridge's devolved structure, there should be space for innovation in service provision, and different Institutional needs should drive the design and delivery of the services that are provided. Schools and Institutions must accept joint responsibility with the University for delivering the minimum levels of service referred to in A3 and A4.**

**A9. The governance structure should ensure that the University's needs for information systems and services are met in a way that reduces carbon dioxide emissions as much as is practicable.**

## **Recommendations**

**B1. The Information Strategy and Services Syndicate should be replaced by a strengthened Information Services Committee (ISC) which is better equipped to shape and drive the provision of high-quality information services and systems across the University.**

**The membership of the Committee should be:**

- **The Vice-Chancellor, or a deputy, as Chair;**
- **Three members appointed from among the Heads of School by the General Board;**
- **Three members appointed by the Council, after consultation with the General Board;**
- **One external member, to be appointed by Council;**
- **Two members appointed by the Colleges;**
- **The Registry;**
- **One member nominated by the Library Syndicate;**
- **Two student members, one undergraduate and one graduate;**
- **Up to one co-opted member.**

**B2. The ISC should be free to determine the final details of sub-committees, but the panel recommends that there should at least be sub-committees for: Research, Teaching and Learning, and Business Systems, as well as a User Forum. The Business Systems sub-committee should be chaired by the Registry; the other sub-committees and the User Forum should be chaired by Council appointees to the ISC.**

**C1. The University should appoint a Director of Information Services, reporting to the Vice-Chancellor.**

**C2. The UCS and MISD should be merged into a single organisation, University Information Services, under the leadership of the new Director as soon as possible. This merged organisation should also include the existing High Performance Computing Service, but not, at the present time, CARET.**

**C3. The existing central provision of services including (but not restricted to) e-mail, the backbone network, the JANET connection, security and training, as well as the provision of information services such as CUFs, CHRIS and CamSIS, should continue, with future priorities determined by the ISC.**

**C4. There should be a central service that offers an affordable but flexible, supported “desktop” service to Schools, Departments and Institutions, accessible by mobile devices, and supporting a range of operating systems.**

**D1. Schools and non-School Institutions should have responsibility for ensuring that their staff and students have access to the levels of service set by the ISSC and referred to in A3 and A4. Schools, Departments and other Institutions should consider whether this can most effectively be done by local provision, at School level, or by use of a centrally provided service.**

**D2. Each School and non-School Institution should identify or appoint one or more IT Co-ordinators from among the IT staff in the School. Each School and non-School Institution should also appoint a senior academic (or equivalent) as the user lead.**

**E1. The University should reform the career structures and employment arrangements of its computing support staff with urgency, with the aim of improving the mobility of individuals and the flexibility of teams.**

**F1. An intuitive user interface is a critical component of modern systems, and Project Boards for the development and purchase of particular systems must ensure that this is considered at every stage of development.**

**F2. The ISSC should strengthen the involvement of Schools and Departments in decisions about strategic investment in information systems to ensure that their needs are properly considered alongside those of the central administration.**

**F3. The ISSC should review whether urgent action is needed to provide basic user-oriented facilities to assist with the everyday business of academic and administrative staff.**

**F4. A modular approach to information systems development should be adopted based on a common architecture and public, clearly documented, interfaces to accelerate delivery and stimulate innovation.**

**G1. The oversight of provision of large-scale high-performance computing should become a University-level responsibility.**