

OE2C IT Initiative Academic Subteam Findings and General Recommendations

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Introduction

Based on the results of a general survey of the faculty and followup meetings with every academic unit on campus, the OE2C IT Initiative Academic Subteam has formulated its preliminary findings and general recommendations, summarized below. We hope that the SMU community will take the time to read this summary and provide us with any additional feedback they feel to be important. Please realize that our subteam is only a part of this far-ranging initiative, and that the final recommendations made by the entire team must also take account of input from a number of other groups. We thank you for the time you have taken to provide us with a comprehensive vision of IT support you need.

Guiding Principles

The use of information technology is an integral part of all academic functions: teaching, research, and service. To meet SMU's ambitious goals for its second century, further investment in this area, strategically focused on academic needs, is sorely needed. But beyond providing a state-of-the-art IT infrastructure, a support structure must be put in place which is responsive to faculty needs and aligned with the basic principles of faculty governance and academic freedom.

General Support: From a faculty perspective, IT support is most effective and efficient when delivered by staff with a good working knowledge of the faculty member's particular research and teaching needs. Ideally, staff with whom faculty have a working relationship will also be the first point-of-contact to obtain additional help and information. In addition, there is a need for expert staff who do more than simply provide service, but who are proactive in learning about new technology and communicating their knowledge to the faculty. Thus our basic recommendation is for a cooperative two-tiered structure, with enhanced local support, answerable to the Deans, and an operationally connected shared academic support team with robust faculty governance. Specifically:

- Each school and college should have an embedded IT support team. This team should be the first line of support for faculty, and where appropriate be tasked with referring faculty to the right person/group in the shared support team, as well as basic communication on available

and desired services. The local teams should generally provide all support for any unique or unusual needs in their unit. The number of staff required will vary from unit to unit, but should be determined by the Deans as part of the standard budget process.

- Where justified by substantial cost savings, support services shared across campus should be provided. Examples of activities appropriate for shared support include:
 - i. Basic helpdesk laptop/desktop support across all standard operating systems (currently Windows, MAC OS, Linux, Android, iOS). A broad range of options should be available for standard laptops/desktops.
 - ii. Support of basic software for teaching such as Blackboard (or its replacement), Office, Adobe products, etc.
 - iii. Support for common applications such as Matlab, R, SPSS, etc.
 - iv. Support for shared research infrastructure - high-performance computing and secure data storage/archiving.
 - v. Support for web page development/design.

The shared academic support team or teams should have a close working relationship with the local teams; in particular there should be no restrictions on specific functions performed by either group. Faculty and Deans must have substantial control over any centralized support organizations. In addition, units should be encouraged to share their local expertise where appropriate; the collection and dissemination of information about available local expertise and even resources (e.g., specialized software packages, specialized hardware), should be part of the responsibility of the shared support unit. Finally, decisions on what should be supported across campus, within budgetary constraints, should be made by a faculty advisory board.

- Operations of any centralized IT support teams must be transparent. Faculty must be able to easily learn the status of their support requests, the contact person and their supervisor, and the estimated completion time. Transparency should be enhanced with an easily accessible organization chart of the IT support unit.
- Expert staff whose job includes learning about new technologies and communicating their knowledge with faculty should be provided - depending on need such staff could be part of either the local or shared services team.

Classroom technology and support: Urgent classroom issues must be handled rapidly (within 5 minutes), which requires that sufficient staff with detailed knowledge of the technology, software, and special needs for students be available. In addition faculty need to know that a baseline technology will always be available, and need also to know of and be able to schedule classes or class

time in more specialized facilities. We note that current technology and support is substandard in many areas for a University of SMU's stature. Specifically we recommend

- Staff with detailed knowledge of the technology, software, and special needs for students using any particular classroom should be on duty in close physical proximity at all times when classes are scheduled. Note that many of these requirements are unique to individual units. Staff should also regularly test the functionality of the classrooms they serve, and provide training to faculty before the start of any semester.
- A baseline technology including the ability to project images at good resolution, the ability to easily function using a standard interface with laptops running any typical OS (Windows, MAC OS, and preferably Linux), reliable wireless, and sufficient power outlets for all students. The technology should be periodically upgraded with significant faculty control of the design process.
- A simple way to learn of classrooms with special technology and a web-based service to schedule them either for an entire course or a class session.
- More labs for classes with significant technology content, available all hours for students to complete their work. (It is possible that this need could be met by an upgraded APPS.SMU service. However, it would be necessary to require, with financial support when needed, that all students have a laptop meeting certain standards, to provide substantial in-class help for software installation, and to guarantee simultaneous wireless access for large classes.)
- With the help of their local team, units should be able to customize classroom technology according to their specific teaching needs.

Software/database acquisition: Knowledge about available software and training to use it should be easy for faculty to obtain. We note that many units have specialized software needs, which will be best served and licensed by the local team. Decisions about what software to license and support as a shared service should be determined by faculty based on academic needs. Lastly, there should be expertise available to help faculty learn about software for a given function, whether or not it is currently supported. In particular:

- A straightforward method for faculty to learn about available software licenses and to obtain copies should be in place. In addition, the local team should be knowledgeable in the availability of software licenses and be proactive in informing faculty of potentially relevant technology.
- A clear mechanism for funding licences for databases, software, and subscriptions should exist. Given any particular requests, efforts should be made to find other potential users, for example by communicating with the local teams or directly with faculty expected to have

some interest. Decisions on what to support centrally should be made by a representative committee of faculty.

- Training/expert consultation should be provided for services of general interest.
- Units should be free to use any software they choose, but are encouraged to share their knowledge as appropriate.

Research: By its nature, research needs are likely to vary greatly across and even within units, so the bulk of support should be provided by the local teams. The fundamental principle is that faculty should not be restricted in their use of information technology for research, with only the obvious exception of activities which can interfere with other users. However, there is a need for shared research infrastructure, which should be managed by the shared academic services group. Priorities for shared services should be set by a representative committee of faculty. In particular:

- Use of IT in research should not be restricted by any University policies, except where such use leads to actual problems for others (e.g. compromising network security, or monopolizing shared resources). Units, or PIs using direct costs, should be free to decide how best to use their resources to support research.
- A shared high-performance computing capability should be provided with sufficient resources to serve researchers across campus.
- Sufficient expert staff should be available to enable faculty and students to use HPC facilities productively.
- A secure file storage access technology capable of handling large datasets should be provided. It should include support for collaboration with faculty across SMU and in other universities, data backup and long-term archiving.
- Facilities for hosting research-related web pages/databases should be provided.

IT organization and governance structure: As detailed above, we recommend a two-tier system with local support teams, essentially managed within each unit, and a shared academic IT support team or teams.

- The academic technology support teams must have academic oversight and leadership to ensure the teaching and research technology needs of the faculty are met. In particular, faculty and Deans need control not only over local services but also over centralized services, which could be budgetary, advisory committees, etc.
- IT Policies must be approved by the Faculty.
- The budget for academic technology to improve the quality of teaching and research must be viewed as an investment in the core mission of the University, not as a cost to be managed.

Priorities for additional resources: Priorities mentioned in the survey and follow-up meetings, which vary somewhat across units, reflect inadequacies in SMU's current academic IT support and appear in many of the recommendations listed above. They include

- Classroom upgrades and an ongoing budget for the renewal of classroom technology.
- Improved infrastructure and support for high-performance computing.
- Additional and more expert IT staff.
- Improved telecom, including facilities for synchronous teaching.
- More funding for software licenses and database subscriptions.
- Improved infrastructure for data sharing, backup, and archiving.
- Funding for labs and student laptops.