

Strategic Plans

Executive Summary

This Information Technology Office Strategic Plan outlines the vision and planning context for moving forward with information technology for St. George's University.

IT Office Vision

All members of the St. George's University community will have access to a first-class information technology infrastructure.

In order to achieve this vision there are a number of strategic objectives to be met. They begin with seven key application areas for information technology and continue to areas of concern in infrastructure, management and funding. In each area specific actions are presented to achieve the objective.

Teaching, Learning and Students

The University will effectively use technology to extend its instructional activities throughout all of its locations, while applying technology to improve the quality of instruction and services delivered to students both on and off campus.

- Enhance Instructional Technology Support
- Provide Classroom Technology
- Assess/Enhance Campus Information Technology Labs
- Connect Student Housing
- Address Student Access Issues
- Provide Technical Infrastructure for E-Learning
- Develop Policies that Support Teaching with Technology

Administrative Services

Modern administrative information systems will provide every member and customer of the University community with integrated access to appropriate administrative information and services in a reduced paper environment.

- Develop Integrated Access to Administrative Services
- Implement Integrated Data Warehouse

Communications and Network Services

The University will provide all members of its community with ubiquitous, standardized, secure, reliable communications services of appropriate capacity to support instruction, research, and administration on a 24-hour-a-day, 7-day-a-week basis.

- Continue to Upgrade Campus Networks
- Continue to Enhance Intercampus Network
- Monitor Emerging Networking Technologies
- Leverage Network for Improved Inter-campus Collaboration
- Continue Development of Network Operations Center
- Enhance University wide Directory, File sharing and Calendar Services
- Enhance Information Security Capability

Space and Facilities

All University campuses and facilities will be information technology friendly, with a reliable modern technical infrastructure equipped for services appropriate to their use.

- Develop, Apply and Maintain Construction Standards

Faculty and Staff Support

The University community will be able to use information technologies appropriately and effectively with the assistance of an able and committed information technology support staff.

- Provide Administrators, Faculty, and Staff with Up-to-Date Networked Computers
- Provide an Adequate Technical Support Staff
- Provide Adequate Professional Development Opportunities
- Provide Adequate HR Practices for IT Professionals

Information Technology Management and Funding

The University will effectively manage the converging and rapidly advancing technologies of computing and communications across the University system and at each campus or college by employing sound fiscal practices.

- Continue to budget IT Costs as Ongoing Operational Expenses

As a whole, these actions are neither speculative nor aggressive. Rather, this is a set of fairly conservative actions that will establish and continue to provide a reliable, up-to-date and well-managed technology infrastructure to enable contemporary teaching, learning, research and administrative planning and operations to flourish.

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Information Technology Planning Context

There is little need to describe in detail the impact of information technologies on every aspect of the mission and operations of the University. Suffice it to say that information technology presents exciting and significant new opportunities in teaching, learning, research, service and administration. A first-class information technology environment enables the University to enhance its overall quality, extend access to its programs and services, and improve its efficiency and effectiveness. While technology alone cannot turn a weak institution into a strong one, inadequate information technology facilities, services or support will limit the ability of a knowledge-based institution like SGU to flourish.

The SGU Information Technology Office's vision for information technology is straightforward - All members of the St. George's University community will have access to a first-class information technology infrastructure.

Achieving this vision requires continued concerted action across a number of dimensions and in each of these dimensions the challenges to success are formidable. Expectations of what constitutes "first-class" in information technology change constantly as the technologies become more powerful, complex and, unfortunately, more difficult to adequately sustain and support. Unlike other areas where five or even ten-year action plans are feasible, the pace of change in information technology means that only strategies and general directions can be usefully prescribed for the long term. And the dynamism and creativity of the University community in finding, devising and implementing powerful applications of new information

technologies means that new tools and support services are continually in demand, even as consumers of older services expect continuing, if not improving, support.

Strategic Objectives and Specific Actions

The basis of the strategic objectives and specific actions is a frank assessment of progress in specific aspects of technology infrastructure, management, support and use. Meeting the objectives through these actions will enable the University to achieve its vision for information technology. For each of the seven strategic objectives the plan identifies specific actions required to achieve each objective followed by a discussion of the University's successes and most significant current concerns that provide the context and justification for that action. In some cases the actions are system wide in nature, and in others, responsibility is assigned to units to address in a manner consistent with their mission and culture. In all cases the responsibility for action is clearly assigned.

These actions are neither speculative nor aggressive. Rather, they are a set of fairly conservative actions that will establish and continue to provide a reliable, up-to-date and well-managed technology infrastructure that can enable contemporary teaching, learning, research and administrative planning and operations to flourish.

Of course, a superb information technology infrastructure and excellent support cannot guarantee excellence. But the failure of St. George's University to provide an adequate information technology infrastructure and support will almost certainly guarantee that teaching, learning, research and administration can not develop in a manner commensurate with current practices in higher education today.

Finally, in spite of their importance to the University, this plan does not address the many issues the University faces in the areas of formal information technology education or student and faculty information technology competency. These matters are left to the institution's academic and curricular planning processes rather than being included in this strategic plan for information technology.

Teaching, Learning and Students

Objective: The University will effectively use technology to extend its instructional activities throughout the world, while applying technology to improve the quality of instruction and services delivered to students both on and off campus.

Action 1) Enhance Instructional Technology Support

The University must continue to identify and expend additional resources at both the system wide and campus levels to enhance support for the use of information technologies in instruction for both distant and campus-based students. Expanded activities must include additional opportunities for faculty development and assistance with creation of accessible instructional content.

Responsibility: IT, Campuses

A significant barrier to success had been the lack of adequate support to assist faculty in applying technologies to improve and extend access to instruction. The selection of a specific web-based course management package, SAKAI, has optimized the effectiveness of scarce technical support staff and encouraged mutual faculty assistance of one another. In addition, the recent addition of technical support staff has also improved the level of support for faculty.

The adoption of the Internet for teaching and learning explicitly blurs the lines between distance learning and instructional technology. The same strategies and technologies that are used to enhance campus-based instruction can be employed with students who matriculate at a distance. There are a number of very important differences in student support and policy when entire courses and programs are delivered on-line. However, many of the faculty development initiatives, tools and support requirements are identical for faculty whether teaching distant students or using the same technologies on campus. This is a positive development in both directions since it will lead to increased faculty readiness to teach at a distance, as well as significant enhancement of campus-based teaching by faculty who are experienced with distance delivery.

To nurture the successes the University has enjoyed, will require a continued improvement of support for faculty engaged in teaching with technology. Faculty members need opportunities to learn about how information technologies can be utilized with attention to the quality of instruction, which must remain paramount. This requires attention to both pedagogical issues as well as specific technologies. Then faculty members who engage in teaching with technology must be provided with assistance in developing instructional content. And ongoing support is required for both faculty and students to address the technical problems or questions that inevitably arise during technology-assisted classes.

Action 2) Provide Classroom Technology

The University must develop technical models for acceptable levels of classroom technology. Campuses should develop financial plans to bring all classrooms up to these levels on a systematic and ongoing basis over time. This is a continuous process rather than a one-time requirement, since technology requirements will continue to change over time. Colleges or departments should enhance any minimum standards with additional discipline-specific or technology-intensive requirements where appropriate.

Responsibility: Campuses, IT

Information technologies can be used in on-campus classrooms in a variety of ways to improve the quality of instruction. A networked computer with a projector can not only simplify the presentation of up-to-the-minute information and lecture notes, but can facilitate much more powerful instructional experiences. Current and dynamic data can be projected from the Internet. Simulations and models can be run in real time based on student questions or class discussions. Faculty can model real-life research strategies in response to classroom inquiries.

Additionally, guest lecturers or experts can be included in classroom discussions and presentations by "chat" or videoconferencing.

As the use of information technology in the classroom continues to increase, the institution must provide the required support for every faculty member to be able to use advanced information technologies. This support should make information technology as easy to use as the blackboard that is in almost every classroom. As nearly every student brings his/her own computers to campus, additional provisions will need to be made for network connectivity (wired and/or wireless) in the classroom for students, as well consideration of electrical power requirements.

Great improvements have been made recently, but more needs to be done.

Action 3) Assess/Enhance Campus Information Technology Labs

Each campus must assess whether its dedicated information technology lab and classroom facilities are adequate for its instructional programs. Each campus must develop plans for the space needed and budget processes must recognize the support, maintenance and regular equipment replacement for these labs as an ongoing operating cost.

Responsibility: Campuses, IT

While many students already own computers or have access to one at home, there continues to be a need for campus-based computer lab facilities. Some students with low-bandwidth access at home will require convenient high-speed network access for their studies. Computer labs may be the only affordable means of providing students with access to specialized information technology hardware, software and facilities such as the advanced resources used in video and media production. Labs and networked classrooms can be used to support the hands-on components of classroom teaching and learning opportunities. For example, faculty may have instructional strategies that require synchronous on-line collaboration, group writing activities, or hands-on training in specialized tools or activities.

When not in use for entire classes to work together during scheduled periods, computer lab facilities can be used on a walk-in basis by students.

Over time, all public spaces on campus will be equipped with wired and/or wireless computer high-speed network access. As campuses take advantage of advances in wireless networking technology, electrical power may become even more important than wired network access for mobile students who are working around campus all day.

Departmental labs with specialized capabilities are needed in some units, but these are not a substitute for larger, more accessible campus-based facilities that are widely available to entire campus constituencies. In the past, our campuses were able to provide new computer labs for students as a part of construction projects. As in other areas, it is critical that the financing of labs be treated as an operational expense with equipment scheduled for regular replacement based on its useful lifetime.

Action 4) Connect Student Housing

Each campus with student housing has developed a plan and identified financing to provide network connectivity in all student residences.

Responsibility: Campuses, IT

The availability of network connections in student residence facilities is not only an educational requirement but also a competitive necessity. While student housing at St. George's University is self-financing through its revenue streams, student expectations dictate that every dorm room must have network connectivity. In order to accommodate financial realities, this was accomplished through a multi-year plan. All dorm rooms on the True Blue campus now have such network connectivity in place.

Action 5) Address Student Access Issues

Campuses should engage in dialogs that consider appropriate means of addressing student access to information technology. This should include the viability of student computer ownership requirements, the possible use of student information technology fees to enhance campus-based resources, and the readiness of the campus faculty and administration to fully embrace the use of technology when student access is universal.

Responsibility: Campuses, IT

An increasing international focus on "The Digital Divide" has created a realization that there are really many different types of barriers to access of information technology. As the major institution of higher education in Grenada, the University must consider how to ensure that students have adequate access to computers and networked information resources. Prior actions will address the issue for the campus environment, but student learning takes place at home and other locations as well. An increasing number of University students have access to a computer at home upon enrollment, including many with notebook computers.

Many U.S. universities now require computer ownership of all incoming students, and some provide each student with a standard laptop upon enrollment by using tuition or special fee revenue. There are a number

of closely inter-related issues and opportunities associated with ensuring that students have appropriate access to technology.

Discussion of student computer ownership requirements must be balanced with the discussions regarding potential student technology fees, both of which would impact students' cost of education. It should also be noted that to the extent some of these costs are implicit, making them explicit might actually benefit students. For example, the cost of a computer ownership requirement or mandatory technology fee might be included in financial aid packages, while the informal expectation that each student have access to a computer at home is not. Such questions and tradeoffs may be more appropriately considered at the unit level rather than with a single system wide decision since students at different campuses and in different academic programs have differing needs. In considering student ownership requirements or fees, campuses and programs should be aware that students would have a greater expectation that faculty and administrators will embrace the use of technology in teaching, learning and support activities commensurate with any such requirement.

Action 6) Expand Technical Infrastructure for E-Learning

The University has planned for and funded the technical infrastructure to permit an increased level of network-supported learning opportunities at all of its locations.

Responsibility: IT, Campuses

As noted previously, the University is also enjoying substantial growth in the use of Internet-based technologies for e-learning and the enhancement of campus-based instruction. These technologies offer the promise of shattering not just the barriers of place by offering instruction anywhere a networked computer is available. But these technologies can also provide asynchronous learning opportunities in which students can actively engage in learning at times that fit their own schedule and constraints. These asynchronous Internet technologies also require a technical infrastructure -- an infrastructure that includes items such as servers for course management, discussions and testing; digital media development capability; and on-demand media servers.

Action 7) Develop Policies that Support Teaching with Technology

The University shall adopt a set of policies and practices that support and encourage faculty involvement in distance learning and the use of information technologies to qualitatively enhance university instruction.

Responsibility: Faculty Leadership, General Counsel

One important area where the adoption of applicable policy and procedure has seriously lagged is in faculty-related issues. This lack of detailed policy has not yet been a major operational obstacle to progress, but it may become more significant over time. The University has yet to specifically recognize faculty members' work with instructional technologies in the promotion process. Absent support and recognition, such work can actually have negative impacts on teaching and time for research. Addressing the thorny issues associated with developing content will require a sensitive review of workload practices, intellectual property ownership policies and potential revenue sharing that fairly addresses the knowledge and experience of our faculty, the creativity of our support staff and the contributions of the institution.

Finally, the University has recently begun implementing accessibility of student services through the use of information technologies.

Administrative Services

Objective: Modern administrative information systems provide every member and customer of the University community with integrated access to appropriate administrative information and services in a reduced paper environment.

Action 8) Continue to Implement Modern Integrated Administrative Information Systems

The University continues to implement advanced administrative application services in the student, finance and human resource areas using modern information technologies that provide members and customers of the institution with convenient access to the information and services for which they are authorized. This includes significant process reengineering that incorporates state-of-the-art business practices to streamline procedures, integrate across functional areas, introduce a greater focus on the end-user and increase self-service processing.

Responsibility: IT, HR, Financial Mgmt Office

The University is continuing to progress toward the kind of electronic "one-stop shop" World Wide Web portal for student services that is emerging as a competitive advantage in leading institutions of higher education. Such developments not only improve service to students, but they also increase the cost-effectiveness of student services by providing unmediated access to information and services electronically.

It is clear that the University needs a new generation of administrative services that provide every customer of the institution with the access to the information business transactions for which they are authorized. Access is being provided through web-based online systems. Part of this process includes a comprehensive review and revision of business processes rather than automation of what is done today ("paving of the cowpaths"). The new automated processes include a workflow component that reduces duplicative layers of review and approval in order to extend to the unit level the flexibility - as well as the accountability - that have been granted to the University as a whole. The University needs to continue and increase its use of e-commerce practices - both Business-to-Business (B2B) and business-to-consumer (B2C) - to provide one-stop self-service for end-users and "paperless office" techniques to improve customer service and improve the efficiency of the University's internal and external processing activities. Whether through a fully integrated suite of applications or sophisticated software interfaces that link applications and databases, currently unintegrated university information systems must be fully integrated across all functional areas to provide seamless services and information to customers at all levels. This is being addressed through the recent implementation of the Banner ERP.

Action 9) Implement Integrated Data Warehouse

The University continues to implement a data warehousing application that provides managers and executives with web-based access to integrated information in a manner that encourages decentralized analysis and facilities monitoring, planning, assessment and informed decision-making throughout the institution.

Responsibility: IT

In addition to modern and flexible operational systems, institutional decision-makers at every level need access to information about activities and finance within their areas of purview. For example, the University currently has available in one place, consolidated information about each department such as: the courses offered, the number of majors, student semester hours taught, faculty positions, support staff, square feet of space used, total salary outlay, other expenditures and revenue generated. This type of information is readily available in standard reports and for ad-hoc queries and "what-if" scenario analysis using readily available desktop tools for information management, e.g., spreadsheets and graphing programs.

Communications and Network Services

Objective: The University will provide all members of its community with ubiquitous, standardized, secure, reliable communications services of appropriate capacity to support instruction, research, and administration on a 24-hour-a-day, 7-day-a-week basis.

Action 10) Continue to Upgrade Campus Networks

The Information Technology Office has provided a telecommunications infrastructure that permits the provision of high-speed networking services to all locations. Funding for network operations must continue to be provided on an ongoing basis to ensure a constant program of maintenance and renewal of networks.

Responsibility: IT

In the mid-1990s the University began to standardize data networking on the TCP/IP protocol suite, the technology that underlies the Internet. Consolidation on this single protocol has permitted access to both academic and administrative information and services through a single network connection at any location on any campus, or in fact, anywhere on the Internet. Network implementation and management has been simplified, and the rapid advance of Internet technologies has reduced costs for increasing capabilities.

Higher capacity links are beginning to be required in locations that are making extensive use of multimedia, large data archives or other advanced services. This need for higher speed connections in a few locations is a harbinger of what will soon be required in every office and classroom - secure, reliable, broadband access at speeds appropriate for even the most demanding network tasks.

Action 11) Continuously Enhance Intercampus Network

The University will actively monitor opportunities to obtain higher capacity international telecommunications services to connect its campuses and education centers in a manner that will permit flexible and cost-effective expansion of capabilities and services to meet projected growth in demand.

Responsibility: IT

The University has been quite successful in maintaining an acceptable level of external Internet connectivity. Between the external connections that extend beyond Grenada and the campus networks needed to deliver services between buildings and rooms, St. George's University requires an advanced intercampus network that permits all its students, faculty and staff to collaborate and access resources anywhere in the world. And with projected rates of growth in network demand - increases of 100% per year are typical - the University needs to be vigilant for any opportunities for additional capacity that may support its next generation intercampus network.

Action 12) Monitor Emerging Networking Technologies

The University will continue to actively monitor emerging technologies, such as wireless networking, voice-over-IP (VoIP) and smart cards, through a process of pilot-tests and evaluation with interested units. The objective of this effort will be to maintain an understanding of leading edge technologies as well as current best practices that can be applied to short-term and long-term project planning where appropriate.

Responsibility: IT

The early adoption of TCP/IP as the University's networking protocol has been a major reason for the extensive penetration of network services on all campuses. As the next-generation TCP/IP networking technologies mature, this will also permit the University to benefit from Internet quality-of-service and multicast capabilities to support advanced network applications including distance learning, videoconferencing, and streaming media.

While in many cases the University's basic network infrastructure is still catching up to current requirements, planning must always have an eye to the future since networking technology is the most rapidly changing aspect of information technology. While overly aggressive plans face the danger of betting on the "wrong" technology, conservative plans may be rendered obsolete even before project completion. The only solution is to aggressively monitor changing technologies to ensure that technical plans contain an appropriate balance of prudence and prescience. To some extent this can be achieved by learning from others.

But the University needs to also continue to maintain its technology edge through a modest program of active experimentation in at least some areas. Expansive visions such as the creation of university-wide learning environments with students working electronically in teams in campus libraries and malls anywhere in the world can drive the implementation of key underlying technologies such as wireless networking, dynamic access to networks and advanced network security.

Action 13) Leverage Network for Improved Inter-campus Collaboration

The University shall plan and implement a cost-effective suite of tools for inter-campus collaboration including computer conferencing, long-distance phone and fax, and videoconferencing to support ad-hoc and informal collaboration among faculty, staff and students without impacting scheduled distance learning activities.

Responsibility: IT

While the primary applications of wide area networks at the University have been distance learning and academic access to data networks and information services, other application areas that could provide cost-savings should not be neglected.

There is limited use of established computer conferencing techniques to support administrative collaboration or decision-making. As a result, the University community continues to expend too much time and money on international travel for meetings and discussions that could be conducted electronically.

Major network upgrades will provide enabling capacity for synchronous applications, but additional networking engineering, campus network upgrades, equipment, software and support are required to make these time- and money-saving applications a reality.

Action 14) Continue Development of Network Operations Center

The University must continue to develop its Network Operations Center to monitor critical networks, systems and services, detects problems, initiates resolution, and provides status updates and incident data management for both operational requirements and overall management and decision-making.

Responsibility: IT

Students today expect to be able to engage in learning activities any time of the day or night through electronic means. An increasing number of scientific experiments generate or access data on a continuous basis. And the institution's knowledge workers - both faculty and staff - now expect the networked systems to be up and running any time they want to work on campus, from home, or during their travels.

The entire university community has come to rely on the availability of communications and network services 24-hours-a-day 7-days-a-week (24x7), and many faculty and staff now consider the network to be more vital to their work over the course of the day than the telephone.

Recent work within IT has provided monitoring systems that permit Network Administrators to detect common system and network outages and initiate problem resolution. However, much more needs to be done.

Action 15) Enhance University wide Directory, File sharing and Calendar Services

The University must continue to develop and enhance its robust electronic directory service that includes capability to support uniform personal authentication for information and services deployed at the system, unit, college or department level.

Responsibility: IT

The University was early to adopt an "access for all" strategy to provide every faculty member, staff member and student enrolled in credit courses with Intranet connectivity. This provides access to friendly and robust email service that is available to the entire University community on a 7x24 basis including through a web-based interface.

Action 16) Enhance Information Security Capability

The University must continue to develop and enhance its information security capability that monitors and manages security of institutional systems while also providing information and secondary support to system and network managers throughout the University system who are accountable for the resources they manage.

Responsibility: IT

Explosive growth in the use of information technologies as the basis for institutional communications, information processing and data exchange comes at a time when there are an increasing number of security vulnerabilities in a variety of computer and network technologies. Vulnerabilities include increasingly destructive viruses and worms that have been designed to propagate aggressively. Well-informed hackers are able to break into servers and other systems that are not aggressively maintained with the latest updates and security patches.

Additionally, compromised systems can be used to launch a variety of attacks that threaten the integrity and usability of the Internet.

However the pace of discovery and change in this area requires that the entire University community be well-supported with current, accurate and user-friendly information to permit system managers to apply appropriate security measures in a timely manner. Intrusion detection must continue to be taken seriously, security tools must be updated on a regular basis and logs and reports must be monitored and acted upon.

Space and Facilities

Objective: All University campuses and facilities will be information technology friendly, with a modern and reliable technical infrastructure that is adequate for current and planned uses.

Action 17) Develop, Apply and Maintain Construction Standards

Construction standards must be developed to ensure that all new construction projects result in buildings and spaces that can support the intensive use of information technologies. These standards must be monitored and reviewed on a regular basis as technology advances

Responsibility: Facilities Planners with support from IT

The University must aggressively monitor best practices in construction as they relate to infrastructure that supports information technology to ensure that all new building and renovation projects prepare the facilities for current and foreseeable technologies. Standards are needed that address the need for

appropriately spaced and equipped telecom rooms, internal and external wiring infrastructure, provisions for electrical power to support intensive use of technology, flexible lighting controls and related matters. When new buildings are constructed or renovations take place, then-current standards should be systematically incorporated in planning and design. As best practices change, so must the University's construction standards.

Faculty and Staff Support

Objective: The University community will be able to use information technologies appropriately and effectively with the assistance of an able and committed information technology support staff.

Action 18) Provide Staff with Up-to-Date Networked Computers

The University must continue to provide every information worker - administrators, faculty, and staff -- with an up-to-date networked personal computer equipped with a web browser, email, appropriate productivity software and anti-virus software. This computer should have access to a printer. Funding must be provided through a lifecycle-funding model that accounts for required upgrades, maintenance and replacement on a regular basis.

Responsibility: Campus Administrators

An up-to-date networked personal computer is the primary tool of today's knowledge worker. This applies to the entire faculty and most staff of the University - secretaries, executives, administrators and technical support staff. All of these individuals are information professionals in today's world.

IT now issues and regularly updates specifications for both recommended and minimum PC configurations that are capable of supporting current requirements at the University.

Action 19) Adequately Staff IT Technical Support Office

University administrators must give priority to funding a level of support staff commensurate with the needs of their units, even when this may result in a reduction of direct services.

Responsibility: Campus Administrators, Support Staff

The provision of excellent service requires having an adequate number of support staff.

Action 20) Provide Professional Development Opportunities

The University must continue to fund and expand ongoing professional development for all workers who use and support information technology. Centralized information about training and professional development opportunities should be maintained and actively promulgated. In addition, more opportunities must be created for information technology professionals throughout the University to work together, learn together and advance their mutual capacity to support the University's faculty, staff and students.

Responsibility: Campuses, IT, HR

It is easy to focus on information technology support staff when thinking about human resource needs in information technology. But creating an environment in which information technology can improve the overall efficiency and effectiveness of the institution requires that all administrators, faculty, and clerical and administrative staff have adequate technology skills to be successful.

Professional development training for many of their tools (basic computer usage, word processing, spreadsheets) may be outsourced to professional training institutes such as continuing education units or to similar in-house units. The use of e-learning and other flexible training methodologies should also be advanced. In addition to any generic training, ongoing professional development in applications unique to the University must be provided. Many employers mandate a certain level of required professional development for each employee each year.

In addition, information technology professionals in support areas need to not only keep up with the end-users they support, but with the rapidly changing technologies on which information services are deployed.

Action 21) Improve HR Practices for IT Professionals

Compensation and HR practices must permit the University to recruit and retain the highest levels of competence in information technology.

Responsibility: HR and Administration

As is the case throughout the world, with the explosion of the information technology economy it has become increasingly difficult for the University to recruit and retain the highest caliber of information technology staff. Universities do not offer stock options and pay is generally lower than in local industry. While few highly competent people work in higher education solely for the compensation, current hiring and compensation practices do not fully reward or encourage the kinds of innovation, creativity and merit-based advancement the University needs in a dynamic area like information technology.

To be able to benefit from a dynamic high-quality information technology environment, the University needs a dynamic and high-quality professional staff to design, create and maintain that environment. Creation of such an environment is not a one-time task that can be outsourced, but the result of a continuous process that changes with almost daily advances in information technology, shifting institutional needs, and the creativity of the faculty who constantly generate new ideas.

Information Technology Management and Funding

Objective: The University will effectively manage the converging and rapidly advancing technologies of computing and communications across the University system and at each campus or college by employing sound fiscal practices.

Action 22) Continue to Budget IT Costs as Ongoing Operational Expenses

Continue existing operating budgets that provide, maintain and replace an up-to-date networked computer on every knowledge worker's desk, information technology facilities in student labs, appropriate instructional technology in every classroom, and modern telecommunications networks to support all required devices and services.

Responsibility: Comptroller

For both centralized and decentralized expenditures, the University must continue its current lifecycle funding for the ongoing maintenance, support and replacement of information technology throughout the system. There are certain "guarantees" that are needed for the University to be able to function effectively. Faculty and staff must have a current networked computer that is properly maintained and licensed with appropriate software. Classrooms and labs must be similarly equipped with stable funding for renewal.

Almost every aspect of information technology today needs to continue to be treated as a recurring cost. Equipment replacement cycles for most kinds of information technologies have been established (generally

from 2 to 5 years depending on the item and its use) and are fully funded along with appropriate maintenance costs. The technique in use at SGU and at many other institutions is to establish a standard amount that covers the estimated annual lifecycle cost of a desktop computer for stable funding in the operational budget.

For example, if it is determined that the cost of a typical computer with maintenance, network access, printing, training, supplies and software (including updates) for a standard personal computer is \$1000, and that computer will last 3 years, then the University currently budgets a minimum of \$333 per information worker per year for this purpose. This provides enough funds to put the entire university on a lifecycle-funding plan in which 1/3 of the computers are replaced each year.

Similar calculations are made for classroom technology, student computer labs, advanced digital media labs, network hardware and other expenses that need to be treated as operating rather than capital costs.

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