

Virginia Commonwealth University

IT Strategic Planning Document

September 10, 2001

Executive Summary

On July 19, 2001, the Secretary of Technology issued guidelines to all agencies and institutions for the preparation of an IT strategic plan. The purpose of the plan is to identify and prioritize for the Commonwealth the "right technology projects that best address agency critical issues, respond to agency customers, and achieve overall value and operational excellence." The guidance also indicated that the plan will support the development of the 2002-2004 Budget.

Virginia Commonwealth University's plan is consistent with institutional planning processes. Specifically, Phase II of VCU's Strategic Plan served as the basis for this process. The initiatives identified in the Phase II plan were further refined by VCU's Institutional Performance Agreement (IPA) proposal developed in Fall 2000 and the update to the University's Long Range Financial Plan approved by the Board of Visitors in May 2001.

Nine IT initiatives have been identified in this plan. These initiatives support various instructional, research, public service, health care and administrative activities at VCU. These nine initiatives were originally articulated in VCU's IPA proposal and refined in the Long Range Financial Plan Update. The Financial Plan targeted an initial level of funding for FY 2002-03 through FY2005-06 required to get each initiative underway. Additional funding beyond these first four years may be required to fully complete the initiative.

The table below shows each initiative, the funding identified in the Long Range Financial Plan for the first four years and an estimate of additional funding required beyond year four to complete the initiatives.

VCU'S STRATEGIC IT INITIATIVES

Initiative	<i>Funding in VCU's Long Range Financial Plan, FY2002-03 to FY2005-06</i>	Additional Funding Needed to Complete Initiative
VCULT001: Completion/Maintenance of VCUnet	\$ 5,567,000	\$ 11,533,000
VCULT002: Student Computing Initiative	\$ 1,622,000	\$ 4,278,000
VCULT003: Instructional Technology Support	\$ 2,814,000	\$ 4,786,000
VCULT004: Distance Education	\$ 2,630,000	\$ 3,970,000
VCULT005: Library Digital Content/Services	\$ 4,495,000	\$ 2,505,000
VCULT006: Faculty Development	\$ 532,000	\$ 968,000
VCULT007: Research Technology Support	\$ 1,619,000	\$ 2,581,000
VCULT008: Web Enhancements	\$ 1,017,000	\$ 1,483,000
VCULT009: Modernize Administrative Systems	\$ 5,600,000	\$ 11,000,000
Grand Total IT Initiatives	\$ 25,896,000	\$ 43,104,000

Part One: Agency Administrative Information

- 1. Agency Title:** Virginia Commonwealth University (VCU)
- 2. Plan Date:** September 10, 2001
- 3. Approved By:** Eugene P. Trani, President
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Part Two: Agency Strategic Direction

1. Summary of Current IT Environment

Background. The nature of higher education has changed significantly over the past decade. The pace of change is quickening at an ever-increasing rate affecting the delivery of instructional programs, research activities, public service programs and health care services. Public officials and citizens are demanding more of higher education with a renewed emphasis on accountability and outcomes. There is greater focus on the process of improving the quality of services and controlling the costs of education and administrative overhead.

The rapid pace of change in higher education is paralleled by a rapidly changing technology environment. Technology has the potential to fundamentally change the instructional process, research activities and administrative operations at colleges and universities. Computing is more pervasive. Students, faculty and staff are becoming more technologically literate and integrating technology into their daily lives for communication, information gathering, decision making and conducting daily business.

Virginia Commonwealth University faces the same challenges as does higher education in general. Faced with increasing student enrollments, demands from the business community for technologically competent graduates, ongoing education for employees and pressures for expanded programs and services, the University is leveraging technology to produce higher quality services while managing rising costs against revenue constraints.

Information technology is increasingly central to the mission of the University. Strong IT services and resources can help deliver competitive advantages and permit institutions to conduct their activities in new and different ways. Rapid changes in technology are providing opportunities to enhance instruction and research, to restructure educational delivery systems, and to improve administrative business and marketing processes.

IT Successes. Since 1994, information technology has played an increasingly important role in the academic, administrative and health care activities of VCU. The University's 1993 Strategic Plan directed the consolidation and management of IT functions and emphasized the importance of planning, developing and delivering these essential services. In 1998, Phase II of the Strategic Plan reiterated the key role for technology is supporting changing academic and administrative activities. Several tactical strategies were identified in the plan to expand the development and use of IT in all aspects of University programs.

Perhaps the most significant accomplishment over the past decade is the pervasiveness of IT throughout the University. Nearly all faculty and staff have PCs that are used daily for communication and collaboration as well as for academic and administrative activities. The University's network, VCUnet, has been developed into a ubiquitous, reliable infrastructure service with high-speed access to the Internet. The majority of University offices and all residence hall rooms have a connection to VCUnet, although many of these are older, slower technology.

Technology is being used in academic activities in ever expanding and innovative ways. VCU now offers 55 distance education courses and two degree programs online broadening the reach of the University's instructional expertise. Most faculty have incorporated technology into traditional classroom courses as well by using web sites for course materials, online discussion groups, electronic advising and testing and other applications.

In early 2000, VCU launched the Student Computing Initiative (SCI) requiring all incoming students, beginning with the Fall 2001 class, to have a computer for their academic work. The most significant impact of SCI, however, may be on improvement in instructional facilities and faculty development. The SCI also has begun to equip classrooms with state of the art multimedia technology for faculty and student use. In addition, several faculty development and mentoring programs have been initiated to help faculty incorporate technology into their classes for more effective instruction.

The explosive growth of the Internet and the use of web technologies to improve or replace traditional business services and processes have been felt on campus as well. For example, students can access their general academic information, such as course schedules, grades and financial aid status, online. Faculty and staff can access standard operational and management information on the web-based VCU Reporting Center rather than the usual computer paper reports. Many routine business functions can be accessed by students, faculty and staff through the web allowing staff the time to provide more value-added service to customers with unique circumstances or problems. The web-based self-service sites, *eServices@VCU* and *Employee Self Service@VCU*, provide an array of business functions that can be completed by students and employees at times and places that are convenient to them.

Current IT Focus.

Network Expansion and Upgrade. Although significant progress had been made in the development of the VCUnet, the increasing demand for bandwidth for academic and administrative applications has put significant pressure on VCU's ability to expand and improve this essential technology infrastructure component. Rapid technology obsolescence combined with escalating bandwidth demands has made the VCUnet a top IT funding priority within the University. The current focus of this operation includes network expansion to ensure 100% coverage of academic and administrative spaces, continuous upgrading of cabling and electronics components to develop a baseline network connectivity of switched 100 mB at every port, targeted Gigabit Ethernet connectivity where required by application demands, and expansion of Internet2 technologies.

Student Computing Initiative. VCU's vision is to create an environment using instructional and research technologies to enhance the life experiences of our students, faculty and staff. We believe this environment affects how students learn and how faculty teach, and supports and strengthens research initiatives at VCU. VCU's Student Computer Initiative program ensures that no student is left out of the technological revolution. Requiring incoming freshmen to own a computer is only one component. The current focus of SCI is upgrading VCU's media and computing infrastructure to create a technology-friendly environment in residence halls, classrooms and laboratories. Coupled with this is the creation of various faculty development

programs, which teach faculty how to use technology, and supports the migration of course material to the Internet and the use of such products as Blackboard. Having the equipment in place does not necessarily mean that learning is better. Thus, VCU is very concerned about learning outcomes and assessment programs. To this end, VCU will be developing an assessment program to determine achievements from the SCI experience and its impact on learning.

Distance Education. Distance education at Virginia Commonwealth University constitutes a planned process for the delivery of education and training, whereby both instructor and student are separated by either a physical distance and/or by time. **Note:** the term distance education, in this context, does not refer to off-campus courses taught in-person by a member of the VCU faculty. Nor does it refer to traditional courses supplemented by online materials. VCU faces the following challenges related to growth and development in the distance education arena: infrastructure support, access, faculty development, financial support, and help desk support. VCU's current focus is on those programs that are delivered **entirely** via distance education. VCU's targeted programs are:

- B.S. in Radiation Sciences (School of Allied Health Professions)
- B.S. in Clinical Laboratory Sciences (School of Allied Health Professions)
- Certificate Program in Pharmacy Technician Training (School of Pharmacy)
- M.S.W. in Social Work (School of Social Work)
- Commonwealth Graduate Engineering Program (CGEP) (School of Engineering)

Research Computing. VCU has set a goal to enhance its standing as a research institution and to develop a significant increase in research funding. Our current research IT focus is to provide sufficient access to a mix of computing platforms ranging from desktop machines to high performance computers to visualization, analytic, statistical, and database software required to support research. This goal includes hiring, training, and retaining the best research computing staff to assist researchers in developing their computing environment with appropriate data analysis models.

Library Information Systems: Digital content and services from libraries, available anytime, anywhere for students and faculty, have rapidly become a core requirement for university teaching, learning, and research. Instructors and students across all disciplines now expect many library materials, including course reserves, major research journals and books, to be provided in digital form and to be well integrated with web-based instruction. Accompanying the growth in digital collections, demand for digitally-delivered services – reference services, instruction, self-service document and book ordering and delivery, digitization and delivery of materials to the desktop, and the like – also has dramatically expanded. Demand for digital services arises in part from initiatives in distance education and network delivery of instruction, but also expresses growing student and faculty expectations for support of their off-campus and at-home work. Together, these trends are transforming academic libraries; library facilities and print collections remain critical and in high demand (24-hour study space is an increasing requirement, for instance), but an equal level of service and access to collections is expected to be available electronically to users outside the library walls, anytime, anywhere in the world.

Expansion of Web-Enabled Services. The rapid development of web technologies has expanded opportunities for how organizations operate and provide services to their customers. Over the past five years, VCU has aggressively implemented a variety of technologies to "web-enable" internal and external academic and administrative functions. The University's strategy has been to leverage existing technology and application investments by using state-of-the-art middleware to provide web access to legacy administrative systems. VCU has developed the VCU Reporting Center for operational and management information, web self-service sites for students, faculty and staff, and several Lotus Notes workflow applications for internal business operations. In the academic arena, web applications have been developed for instructional and research support, library services, student services and faculty support.

For the immediate future, the University intends to expand the use of this technology to replace or simplify manual processes with web-enabled services. However, VCU's long-term strategy is to replace its major administrative applications. These systems will likely be based on web platforms and technologies.

2. Critical Issues

In 1996-97, VCU concluded the first phase of its successful strategic plan. This phase incorporated 15 strategic directions encompassing more than 160 specific actions that prepared the University for the changing environment in higher education while identifying, for the first time, its major strengths. At that time, VCU also laid the groundwork for Phase II of the strategic plan that was completed in 1998. The objective of Phase II was to bring VCU's major academic and administrative divisions together to work on mutual initiatives that will accomplish VCU's goal of national leadership. Phase II also integrated all planning at the University and identified resources and accountability measures to ensure the plan's success. To accomplish these objectives, VCU's 15 strategic directions from Phase I were organized into five comprehensive strategic themes that defined the framework for future University initiatives. All of the strategic themes directly or indirectly incorporated IT components (which were identified in the "tactical strategies" component of the plan). The Strategic Plan Phase II report is available at <http://www.vcu.edu/provost/plan/index.html>.

Specific plans, initiatives, funding proposals and actions have been refined since the 1998 adoption of Phase II. Examples include the VCU 2000-2002 State Budget Request, the Institutional Performance Agreement Proposal and the University's Six-Year Financial Plan. All of these documents included IT components that supported the principal business activities and goals of the University. The critical IT issues below have been articulated in prior University planning documents.

In May 2001, VCU's Board of Visitors approved an update to the University's Long Range Financial Plan. This update identified potential funding for nine IT initiatives previously articulated in Phase II of VCU's Strategic Plan and the IPA proposal from Fall 2000. The nine initiatives are defined below with the level of funding identified in the Long Range Financial Plan for FY2002-03 through FY2005-06 as well as additional funding needed to complete the initiative as originally conceived.

VCULT001: Completion and Maintenance of the VCUnet

Issue and Overall Impact: The impact of technology on the programs and activities of higher education has been astonishing over the last decade. Nowhere has this impact been more pervasive than in the network infrastructures of organizations and their access to the Internet. Virtually all instruction, research, public service and administrative activities rely on access to reliable, high-speed networks in order to effectively serve students, faculty and staff.

The University needs to rapidly complete the build-out of the VCUnet to meet networking standards and the growing technology requirements of University academic and administrative departments. This initiative also will provide an on-going financial base for repair, replacement and future enhancement of the VCUnet.

IT Impact: Yes

IT Strategy: In 1996, VCU developed a comprehensive plan for the design and implementation of a network infrastructure that was robust, reliable, met industry standards, and would address the ever increasing bandwidth demands of University programs and activities. Compared to many research universities, VCU got a late start in developing a comprehensive network infrastructure. Although significant progress has been made since 1996 through the use of HEETF, departmental funds and other one-time funding sources, VCU is less than two-thirds of the way to full completion of the VCUnet with high-speed connections for all users. In addition, the University lacks a financial model to support on-going repair, replacement and upgrade of the network infrastructure. At current resource and service demand levels, VCU will not be able to complete the construction of the VCUnet to meet the growing technology requirements of academic and administrative programs.

This proposal has two components. First, the University will initiate an intensive multi-year program to complete the VCUnet based on current plans and standards. Second, an ongoing, permanent annual allocation is required to maintain the network including repairs, replacement of obsolete technology and upgrades for future academic and program demands. VCU's goal is to achieve replacement cycles of four years for electronics and ten years for wiring.

Funding: Base funding is identified in the Long Range Financial Plan. Additional funding is needed beyond FY2005-06 to complete this initiative.

Funding in Long Range Financial Plan	\$ 5,567,000
Additional Funding to Complete Initiative	11,533,000
Total Cost of Initiative	\$ 19,667,000

Measures of Success:

1. Increase the proportion of high-speed connections to all classrooms and instructional spaces from 15% to 100%.
2. Upgrade the proportion of high-speed connections in faculty and staff offices from 52% to 100%.
3. Increase the proportion of high-speed connections for direct student access (includes residence halls and public access ports from 76% to 100%).
4. Install cross-campus fiber.
5. Decrease downtime caused by network problems.
6. Improve automated monitoring capability to capture increasing percentages of major problems from 25% to 87.5% before they are reported by users.
7. Decrease mean time to repair from 8 hours to 4 hours.
8. Increase the number of Distance Learning and Telemedicine studios in conjunction with Academic Technology from 3 to 8.
9. Decrease average age of network equipment from 8 years to 4 years to maintain reliability and performance.

VCULT002: Student Computing Initiative

Issue and Overall Impact: Phase II, Theme I, Initiative 14, of the Virginia Commonwealth University Strategic Plan states that *"Instructional technology is increasingly important for enhancing the educational experience of our students, for equipping them with the technological skills they will require when they leave the University, and for Virginia Commonwealth University to be competitive for the best graduate, professional and undergraduate students.*

"Consistent with the goal of instructional technology across the curriculum by the year 2001, Virginia Commonwealth University students will be computer literate. This goal will be accomplished by expanding student access to computing, providing faculty development to support curricular priorities, and establishing benchmarks against which to assess the impact of technology on learning."

1. **IT Impact:** Yes
- 2.

IT Strategy: Technology is becoming an increasingly important part of modern society. Preparing the workers of tomorrow to succeed in a highly technical world is a necessary part of the educational mission of VCU. As the use of technology in education becomes more ubiquitous, VCU faculty and students increasingly rely on e-mail, the Internet, digital media and other instructional technology to complement and enhance classroom, laboratory, and studio learning. With a personal computer, every student will have powerful and convenient access from their homes or their residence hall rooms to the rich array of learning resources available on our campus and the web.

VCU has launched the Student Computing Initiative (SCI) to address this strategic direction. SCI activities fall under the broad categories of infrastructure, communications and development. Infrastructure activities are concurrently being addressed by several initiatives to ensure that students and faculty have access to sufficient technology as required by the Strategic

Plan, Phase II, I.1, I.14 and I.15. Faculty development, student assessment and training also are being addressed by multiple initiatives as required.

SCI will be partially funded through a one-time E&G allocation and will be dependent upon HEETF and student technology fee sources for the bulk of its funds. Sufficient funding must be identified for SCI or the initiative will be unable to fulfill its goal of providing access to the breadth of technology available to students at Virginia Commonwealth University.

It must be noted that the six-year plan as outlined only covers a portion of the infrastructure needs and does not address other instructional spaces, faculty offices, computer labs, Resnet, public access ports and advanced networking needs of the University. These needs must be addressed as well to make SCI successful at Virginia Commonwealth University.

VCU has a goal of increasing its out-of-state enrollment by 2,500 students by 2005. Recruitment and retention can be favorably influenced by a technology-enriched learning environment.

3.

Funding: Base funding is identified in the Long Range Financial Plan. Additional funding is needed beyond FY2005-06 to complete this initiative.

Funding in Long Range Financial Plan	\$ 1,622,000
Additional Funding to Complete Initiative	4,278,000
Total Cost of Initiative	\$ 5,900,000

4. **Measures of Success:** Qualitative assessment tools are being developed and used to evaluate student satisfaction and training and to assure that these measures enhance the value of education and research.

VCULT003: Technology Support for Instruction

5.

Issue and Overall Impact: The changing paradigm for instruction relies significantly on technology to support classroom and out-of-classroom activities. This initiative will ensure that VCU is at the forefront in the use of technology to enhance education and research. It directly supports Initiative I, I.1, and IV.6 of the VCU Strategic Plan Phase II.

6. **IT Impact:** Yes

7. **IT Strategy:** This multifaceted plan addresses the following issues:

8.

1. **Classroom facilities** - Provide access to high-end technology in all centrally-controlled classrooms.
2. **Open access labs, classrooms, and residence hall computing facilities** - Require a three-year life cycle replacement in these facilities to ensure that students, faculty and staff have the latest technology available as the University continues to integrate technology across the curriculum.

3. **Centralized IT Help Desk** - Provide sufficient support staff to offer a high level of service and to increase hours of operation.
4. **Internet2 access** - Provide Internet2 access to faculty, staff and students to foster advanced research, teaching and clinical applications development.
9. **5. Video network facilities** - Expand the video network to provide enhanced access to video technology for the faculty, staff and students at VCU.

Funding: Base funding is identified in the Long Range Financial Plan. Additional funding is needed beyond FY2005-06 to complete this initiative.

Funding in Long Range Financial Plan	\$ 2,814,000
Additional Funding to Complete Initiative	4,786,000
 Total Cost of Initiative	 \$7,600,000

10. **Measures of Success:** Qualitative and quantitative assessment tools are being developed and used to evaluate the use of these technologies by faculty, staff and students and to measure their ability to enrich and enhance education and research.

VCULT004: Distance Education

11. **Issue and Overall Impact:** The mission of Academic Technology is to support the University's mission of teaching and research by creating "an environment in which the use of instructional and research technologies is pervasive: a technology-rich environment that enhances the life experiences of our students, faculty and staff." Distance Education at Virginia Commonwealth University has as its major issue the development of new distance education courses and degree and certificate programs, focusing on the University's academic strengths and to support existing distance education courses and degree and certificate programs.

12.

13. **IT Impact:** Yes

14.

IT Strategy: To accomplish this, Distance Education has established several goals:

1. Increase the number of online/distance education courses by at least 10 each year.
2. Add at least one online/distance education certificate program each year.
3. Maintain a 75 percent classroom completion rate each year.

In order to achieve VCU's goal of encouraging the development of new programs and supporting existing programs in distance education, additional equipment and facilities must be made available and additional positions must be created.

Funding: Base funding is identified in the Long Range Financial Plan. Additional funding is needed beyond FY2005-06 to complete this initiative.

Funding in Long Range Financial Plan	\$ 2,630,000
Additional Funding to Complete Initiative	3,970,000

Total Cost of Initiative

\$ 6,600,000

15. **Measures of Success:** A distance education course database has been created to track the numbers of online/distance education courses offered each semester. Newly-created programs will be submitted to the electronic campus of the Southern Regional Education Board. All courses and programs submitted to the SREB must comply with their "Best Practices." Surveys will be administered on a semester basis to all students enrolled in distance education courses and programs at VCU to assess the quality of student services and satisfaction with their learning. Learning outcomes also will be measured.

VCULT005: Library Digital Content and Digital Services.

Issue and Overall Impact: Digital content and services from libraries, available anytime, anywhere for students and faculty, have rapidly become a core requirement for university teaching, learning, and research. Instructors and students across all disciplines now expect many library materials, including course reserves, major research journals and books, to be provided in digital form and to be well integrated with web-based instruction. Major research universities have expanded purchases of digital collections from an average of less than 5% of expenditures in 1998 to nearly 20% in 2001, a 4-fold increase in only three years. Accompanying the growth in digital collections, demand for digitally-delivered services – reference services, instruction, self-service document and book ordering and delivery, digitization and delivery of materials to the desktop, and the like – also has dramatically expanded. Demand for digital services arises in part from initiatives in distance education and network delivery of instruction, but also expresses growing student and faculty expectations for support of their off-campus and at-home work. Together, these trends are transforming academic libraries; library facilities and print collections remain critical and in high demand (24-hour study space is an increasing requirement, for instance), but an equal level of service and access to collections is expected to be available electronically to users outside the library walls, anytime, anywhere in the world.

Given the requirements (and expectations) of faculty and students, as well as an increasingly network-enabled teaching and research environment, VCU Libraries are required to increase capacity for delivery of digital content and services.

IT Impact: Yes

IT Strategy:

VCU and the VCU Libraries propose two major IT initiatives to address this issue:

1. Expand digital content available to users: Improve digital content available to users anytime, anywhere in the world through expanded and continuing acquisition of high-value commercial digital journal and book collections, particularly in science, medicine and technology. In addition, create high-value VCU-specific digital collections, including migration of high-value university print collections to digital format. These actions require high-capacity storage; general-purpose server infrastructure with relational database support; digitization

equipment and expertise; and robust and high-volume network infrastructure. Acquisition of digital-format library materials (full-text scholarly journals and books) requires a projected \$2.0 million in new funding. These funds will substantially strengthen total journal and book holdings in digital format, as well as elevate expenditure levels for digital materials to 40% of overall library material expenditures, roughly twice the national norm for research libraries. Creation of high-value local digital collections will require \$0.5 million for digitization equipment and personnel. These funds will expand local digitization of high-value teaching collections particularly for distance educational courses.

2. Design and implement appropriate digital services for students and faculty: Such services include interactive web-based personal assistance for students and faculty anytime, anywhere in the world, including reference help, teaching and assessment of information literacy skills via the web, unified searching interface for high-value scientific and medical literature, direct order and delivery of materials from digital library collections to the desktop, and checkout and use of electronic books. These services will require staffing for deployment, integration and support of applications; robust and high-volume network infrastructure; and acquisition and implementation of new library management software that includes CRM capabilities. The proposed services require \$1.0 million for acquisition of new library management system (including software and hardware) with CRM capabilities, expanded server plant, staffing for new digital services, and adoption and integration of new search software for scientific and medical literature.

Funding both initiatives will provide for digital-format library materials, hardware, software and staffing sufficient to create and sustain stipulated deliverables. Deliverables include strengthened collections of library materials in digital format; expanded digital holdings of high-value local collections; access to library personnel via the web for reference and other assistance; checkout and use of digital books to handheld devices and other computers; personalized access to digital research materials; direct ordering of digital and print materials via the web for delivery to any location; and web-based instruction targeting technology and information literacy competency requirements from the State Council of Higher Education for Virginia.

Funding: Base funding is identified in the Long Range Financial Plan. Additional funding is needed beyond FY2005-06 to complete this initiative.

Funding in Long Range Financial Plan	\$ 4,495,000
Additional Funding to Complete Initiative	2,505,000
Total Cost of Initiative	\$ 7,000,000

Measures of Success:

1. Expanded journal holdings from current 9,000 to 15,000+ titles, counted using assessment rules formulated by the Association of Research Libraries. Every journal title produced in digital format is available via the web to students and faculty anytime, anywhere in the world.

2. Expanded holdings of digital books from current 13,000 to at least 30,000 titles, available via the web to students and faculty anytime, anywhere in the world.
3. Successful implementation and stable operation of user access to library reference staff via the web using commercial web-based software, covering high-use hours from 1pm to 1am daily. Response time, service availability and service quality assessed through metrics defined by the Association of Research Libraries' LibQUAL+ metrics.
4. Successful implementation of direct ordering for interlibrary loan requests for digital and print materials; direct user access to loan, fine, overdue information and other information in user records maintained by the VCU Libraries.
5. Migration of 90% of VCU Libraries instructional curricula to web-based instruction.
6. Full wireless access (802.11b or higher-speed standard) to the VCU network for authorized users throughout all library facilities.

VCULT006: Faculty Development

16.

Issue and Overall Impact: The Instructional Development Center (IDC) has as its major issue helping faculty to become more knowledgeable about the uses of technology in the classroom and how it might enhance learning. In order to achieve Virginia Commonwealth University's goal of instructional development deployment across the curriculum, additional facilities must be made available for faculty and curriculum development. New faculty development centers must be established on each campus.

17. **IT Impact:** Yes

18.

IT Strategy: To enable this information transfer to the faculty, the IDC has established several goals.

1. Increase the number of faculty attending training in instructional technology by 10 percent over the previous year for a succession of years.
2. Increase the number of courses with online syllabi by 15 percent over the previous year for a succession of years.
3. Increase the number of courses with a technology component by 5 percent over the previous year for a succession of years.
19. 4. Finally, we believe that course management tools ease the efforts necessary for faculty to use technology in teaching and have implemented Blackboard, a course management tool. A fourth goal is to increase the number of Blackboard users by 10 percent over the previous year for a succession of years.
- 20.

Funding: Base funding is identified in the Long Range Financial Plan. Additional funding is needed beyond FY2005-06 to complete this initiative.

Funding in Long Range Financial Plan	\$ 532,000
Additional Funding to Complete Initiative	968,000
Total Cost of Initiative	\$ 1,500,000

21. **Measures of Success:** A survey tool has been created to assess the pervasiveness of instructional technology in classrooms across the campuses. A course database has been implemented that asks for data relative to faculty use of technology. Tracking of faculty attendance in courses designed to further their instructional technology skills also has been implemented.

VCULT007: Enhance Technology Support for Research

22. **Issue and Overall Impact:** This initiative is directly related to the VCU Strategic Plan Phase II, Theme II that states, "The University will foster excellence in teaching, research, and public service that will establish the University as a leader among the nations' major research universities." This initiative is specifically related to II.6, "Technology support will be enhanced for research, including computational and scientific instrumentation support."

23. **IT Impact:** Yes
24.

IT Strategy: In order to attract and retain high caliber faculty and students and stimulate additional research funding, VCU will need to provide a more competitive research computing environment. This course of action is clearly one that VCU must take in order to achieve its strategic goal of assuming a leadership role among the nation's major research universities. Providing faculty and students with enhanced technology support for research will be critical. This initiative provides for equipment dedicated to research support that provides faculty and students with a sufficient access to a mix of computing platforms ranging from desktop machines to high performance computers to visualization and the analytic, statistical and database software required to support research and for personnel dedicated to support of research computing. This initiative will provide a major enhancement to existing technology support for research. If this initiative is not funded, VCU will remain near the bottom among its peers in terms of computing support for research. Because of this, it will become increasingly difficult to attract and retain high quality graduate students and faculty and increasingly difficult for researchers to be competitive for grants.

25.

Funding: Base funding is identified in the Long Range Financial Plan. Additional funding is needed beyond FY2005-06 to complete this initiative.

Funding in Long Range Financial Plan	\$ 1,619,000
Additional Funding to Complete Initiative	2,581,000
Total Cost of Initiative	\$ 4,200,000

26. **Measures of Success:** A survey tool has been created to assess the ability of VCU faculty members to successfully compete for extramural research funds as a function of access to research computing.

VCULT008: VCU Web Enhancements

Issue and Overall Impact: This initiative offers many benefits to VCU. It allows Web Support Services (WSS) to keep abreast of technology to support a robust VCU web site which is essential to instructional, research, clinical and administrative needs. It creates a single University image with integrated services for students, faculty, staff and administrators. It provides accurate and timely data to VCU web site visitors in a much more efficient manner than today's manual processes. It also enhances the capability to assess services and to provide dynamic managerial reports on the quality, quantity and other measure of VCU services. It positions WSS to respond more quickly to University needs. The most recent case in point is the revision of the Research homepage and development of an IRB web site.

27.

28. **IT Impact:** Yes

29.

30. **IT Strategy:**

31.

1. **Proposed Web Design Services for all University Departments.** One of the requirements of the VCU Marketing Task Force (1999) was that each unit's web page should be professionally designed. While some units have found the resources to get their site professionally designed, most have not. To improve the VCU web site at the unit level, Web Support Services would provide home page design and templates for each unit within the University. It should be noted that it would take some time to complete this process so a top down approach would be required.

2. **Provide Additional Centralized Applications and Services to the University.** The VCU Marketing Task Force also identified the need for VCU's web site to advance beyond being only a marketing tool and information provider to providing direct services to VCU students, faculty and staff. Today there are some applications in existence, such as the VCU Events Calendar and work study jobs, but many more are required. These include student web portals (i.e. customized interface to the University for each student), a virtual tour of VCU, and locating and supporting distance education courses and programs.

32.

Funding: Base funding is identified in the Long Range Financial Plan. Additional funding is needed beyond FY2005-06 to complete this initiative.

Funding in Long Range Financial Plan	\$ 1,017,000
Additional Funding to Complete Initiative	1,483,000
Total Cost of Initiative	\$ 2,500,000

33. **Measures of Success:** A quality assessment tool is being developed to assure that these measures enhance the value of the VCU web site for students, faculty, alumni and the community.

VCULT009: Modernizing Administrative Systems and Computing Platforms

Issue and Overall Impact: Modern, functional administrative systems are crucial to support the business operations of the University. Current legacy systems do not provide the modern technology tools needed to properly support administrative offices and operations. This issue is included in VCU's Phase II Strategic Plan as separate initiatives under several strategic themes, including: (1) the University will provide the highest quality academic programs, services and facilities for students; (2) the University will foster excellence in teaching, research and public service that will establish the University as a leader among the nations' major research universities; and (3) the University will provide an environment for working and learning that attracts, retains and supports outstanding, diverse and dedicated staff, administrators and faculty.

IT Impact: Yes

IT Strategy: Under this initiative, the University will modernize its aging administrative information systems and computing platforms. The new systems and platforms will result in:

- improved services for students, faculty and staff,
- more effective business operations,
- better operational and management information for planning, decision making and evaluation, and
- more effective and efficient use of limited information technology resources.

VCU's current administrative systems are based on 20-year old technology operated on an expensive mainframe platform. These systems support the critical business functions of the University—student recruiting and admissions, class registrations and records, student financial aid operations, financial management, personnel and payroll activities, etc. However, current systems do not adequately meet changing business needs and are difficult and expensive to modify, maintain and operate. Moreover, they are not designed with modern, web-based technologies to permit the easy development of self-service functions for students, faculty and staff such as online course registration or employee data updates. By automating these routine business processes, staff can be freed to focus on more problem-oriented, value-added activities.

New administrative systems are being designed by vendors to more effectively support the business functions of institutions. Vendors have developed applications based on "best practices" of colleges and universities. These new systems are easy to use, flexible to changing business practices and integrated so that business functions across the institution—from enrollment services activities to human resources operations—can access the same, single source of information and multiple activities can be completed in one process. These new systems and their supporting technologies permit easier access to management and operational information for improved planning and evaluation and better decision making.

These new administrative applications are being designed to operate on newer, less costly computing platforms using web-based technologies; the client-server technologies from the last ten years are beginning to be phased-out in favor of web-based access mechanisms. Compared to the traditional mainframe technologies, these next generation platforms are less costly to acquire, maintain and upgrade. Moreover, supporting hardware and software products are usually less costly on these newer platforms. As VCU replaces its administrative applications, the mainframe platform will be phased out and those savings reallocated to the ongoing operations, maintenance and routine hardware upgrades and replacement.

The administrative systems and computing platform modernization project is planned for ten years in the following phases:

- Year 1: Preliminary planning
- Year 2: Detailed planning
- Year 3: Requirements analysis and development of RFP; analysis of alternatives and products; acquisition of new administrative system package
- Year 4: Acquisition and implementation of hardware platform
- Year 5: Staged implementation of administrative applications
- Year 5: Continued implementation
- Year 6: Continued implementation
- Year 7: Continued implementation
- Year 8: Continued implementation
- Year 9: Completion of system implementations
- Year 10: Phase out of old systems and mainframe platform

Funding: Base funding is identified in the Long Range Financial Plan. Additional funding is needed beyond FY2005-06 to complete this initiative.

Funding in Long Range Financial Plan	\$ 5,600,000
Additional Funding to Complete Initiative	11,000,000
 Total Cost of Initiative	 \$ 16,600,000

Measures of Success:

1. Change in the proportion of students using self-service technologies for routine administrative transactions to 50%
2. Change in the proportion of employees using self-service technologies for routine administrative transactions to 75%
3. Increase student and employee satisfaction with administrative services
4. Improve cycle times for processing
5. Reduce expenses for computer paper and forms by 50%
6. Reduce the on-going cost of administrative operations
7. Improve the effectiveness of administrative operations