



**2013 – 2014  
Biennium**



## **Technology Strategic Plan**



Revised – April 2013

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## Technology Strategic Plan

Computers are magnificent tools for the realization of our dreams, but no machine can replace the human spark of spirit, compassion, love, and understanding. - Louis Gerstner, CEO, IBM

Capital isn't so important in business. Experience isn't so important. You can get both these things. What is important is ideas. If you have ideas, you have the main asset you need, and there isn't any limit to what you can do with your business and your life. — Harvey Firestone

To raise new questions, new possibilities, to regard old problems from a new angle, requires creative imagination and marks real advance in science. — Albert Einstein

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Virginia's Community Colleges are committed to improving the educational outcomes for Virginia's community college students. Guided by its six-year plan, Achieve 2015, and ongoing reengineering efforts, the VCCS has undertaken a number of innovative initiatives that aim to increase students' access to and success in higher education. Often, an important component of these initiatives is to reexamine the core infrastructure and established practices of college faculty, staff, and administrators.

One of the goals of this work is innovation through technology, with a recommendation to develop a dynamic strategic planning process that will help achieve a culture of innovation through the use of technology.

Innovations and innovative faculty and staff have always been part of the educational enterprise across our nation. Looking back at the evolution of higher education, having students recite what they had read and solve problems on a blackboard were innovative breakthroughs. Innovations today continue to create excitement, and are to a large degree made possible through technology. However, there are seismic shifts under way and many of them have various impacts on the college campus, teaching and learning, and information technology.

New technologies emerge almost daily in the very competitive information-technology market. This competition leads to products and services that can improve our operations in a significant way. Some technologies are specifically geared toward higher education, while others have a broader intended customer base. Because technology is pervasive in all aspects of daily life and work, the VCCS recognizes that it must do more than provide faculty, staff and students access to commonly used technology resources. It must strategically create a culture of innovation using technology, people and other resources in which the community of users can themselves become innovators as they inspire new ways to use technology.

For many knowledge and creative workers, sometime over the past decade everyone woke up and recognized that they no longer go to their workplace to work. Work follows them and is enabled through the growing pervasive availability of connectivity, tools, and solutions that make it viable to have an office at Starbucks, the airport, a park bench, or the library. The nature of work, the workplace, spaces, building, and architecture are all in a dynamic flux to accommodate these new realities.

Organizations that strategically capitalize on innovation are competitively advantaged to progress in reaching their missions at accelerated rates. While the capacity to innovate may exist in any or all organizations, only those organizations that foster environments that allow innovation to flourish will reap the rewards of their innovations.

While dependence on technology is unavoidable, simply promoting the increased use of technology is not the goal, nor is creating a culture of innovation that lacks careful planning or proper accountability. Rather, the ultimate goal is to strategically invest in empowering individuals to take increased responsibility for leveraging technology in their work. The strategic use of technology should spur innovative thinking, enable more efficient workflow, foster greater student engagement, and support improved rates of student success. All this in turn holds great promise in addressing the goals of Achieve 2015 and supporting the mission of Virginia's Community Colleges.

### ***Technology Vision***

The Virginia Community College System will create and sustain a world-class information technology and telecommunications environment that fosters and expands access to exemplary learning and service experiences for all, regardless of time or place.

### ***Technology Commitments***

To achieve its technology vision the VCCS commits to the following actions:

1. Providing extensive opportunities and resources for faculty and students to use information and instructional technologies to enhance the processes of teaching and learning.
2. Establishing and supporting, for all VCCS employees, a comprehensive program of professional development that builds understanding and effective use of modern technologies.
3. Developing model organizational structures and processes, for implementing and supporting information technology systems that efficiently and reliably meet the needs of students and clients, faculty, and staff.
4. Reviewing and revising instructional policies, procedures, and support structures to encourage appropriate use of technology to improve student learning and to address current and emerging education and training needs of the Commonwealth.
5. Creating partnerships with businesses, educational institutions, and other entities to leverage VCCS technology capacity in the support of our mission.
6. Creating and maintaining governance structures for technology which represent the needs of all constituent groups for the purpose of developing technology policy, resolving common technology issues, recognizing new opportunities, selecting appropriate solutions, and proactively addressing external and internal constraints.
7. Selecting and implementing, with broad-based participation by stakeholders, new information technology solutions to enhance the instructional, administrative, and service functions of the VCCS.
8. Ensuring widespread access to the information, instruction, and service resources of the VCCS through high quality voice, data, and video services.
9. Identifying and vigorously pursuing funding solutions to build and sustain technological currency throughout the VCCS.

## ***Technology Initiatives***

The VCCS initiatives are created with the governance process in place, and based around the work done with the Technology Council, Advisory Council of Presidents (ACOP) Technology Committee and then individually with the colleges. Working together the following key areas have been identified in which to focus to make the VCCS system a better system and to provide a base level of technology at all colleges:

- Administration of Technology (Technology Goal I)
- Educational Technology (Technology Goal II)
- Enterprise Applications (Technology Goal III)
- Infrastructure (Technology Goal IV)
- Security and Emergency Preparedness (Technology Goals V and VI)
- Support and Training (Technology Goal VII)
- Planning and Leadership (Technology Goal VIII)

The details of the strategic plan for technology will be explored throughout the rest of this document. However, we must remember that technology planning exists to support the overall mission for the entire system to *give everyone the opportunity to learn and develop the right skills so lives and communities are strengthened.*

## Administration of Technology

Investment in technology is just like investment in any other kind of infrastructure to support research, scholarship, and instruction. At the most basic level, investment in technology infrastructure is part of the cost of doing business for Virginia's Community Colleges. At the very least, the colleges must provide basic technology resources and connectivity to faculty, staff, and students.

It is no longer enough to ensure that our colleges are minimally competitive. The ability to attract and retain instructional faculty depends, in large part, on its ability to provide and support a rich technology infrastructure. Students also expect their technology environments to be contemporary and flexible, ready to change dramatically from one generation of students to the next – a period, on average, of only about five years.

The consumerization of technology is the latest contemporary discourse within higher education and raises understandable concerns about infrastructure, planning and governance, security practices, support strategies, teaching and learning, and fiscal implications. The exciting part about consumerization is the opportunities to diversify and expand the teaching and learning environment – but it will require planning.

Technology planning does not happen automatically, but rather requires a coordinated force from several different entities. Ensuring technology meets its goal of being more effective and providing efficiencies in all operations requires dealing with a variety of issues, such as communication, standardization, policies and procedures and more. It is important to ensure these challenges are resolved so the benefits.

Themes that will enhance the administration of technology include communications, centralization, policies/procedures, resources, procurement and staffing. Each subject is explored further, along with potential strategies for achieving the goals identified.

- *Communication* - Communication is essential to efficient technology operations – both within individual colleges and divisions, as well as between all entities within the VCCS. This could be achieved by listening to the colleges, and providing more communication about what is happening within ITS.
- *Centralized Operations* - The current enterprise applications are delivered to the colleges in a very centralized manner, but can this methodology be leveraged for other areas as well? In conjunction with the work of the reengineering taskforce, it is time to begin exploring other services that could be consolidated to remove the burden from the colleges.
- *Policies/Procedures* - Regulations surrounding higher education and technology have created a large burden on colleges and the system office. The delegated authority provided by Level 2 may provide some assistance, but it is imperative that ITS plays a larger role in assisting the colleges, including education, policy revisions, and creation of a systematic approach to address the requirements.
- *Finance and Resources* - Due to the economic crisis, funding and resources have become a major issue for everyone, and it is a problem that is not likely to end soon.
- *Procurement Practices* - The VCCS has purchasing power due to the size of the entire system, and that influence should be extended into as many areas as possible.
- *Staffing* - Funding problems, combined with increased technology operations have created issues related to staffing at all colleges. Research should be initiated into staffing models and the use of centralized contracts for training to keep staff ready and able to perform their duties.

## TECHNOLOGY GOAL I

Virginia's Community Colleges will take steps to ensure that the administration of technology can be effective, efficient, and able to support the goals of *Achieve 2015*.

### ***Operational Strategies***

The following strategies are operational, and continued pursuit will allow Virginia's Community Colleges to maintain the excellence in technology already enjoyed by the faculty, staff and students of the system.

- Information Technology Services (ITS), in cooperation with the Colleges, will develop and maintain technology models, standards, and guidelines that clearly delineate the VCCS technology direction and related expectations, including:
  - Create an updated schedule to ensure all policies, standards and guidelines are reviewed at a minimum of every three years.
  - Include academic and college technical personnel in the creation/revision of policies, standards and guidelines.
  - Reduce the burden at the college level for complying with policies/procedures.
  - Evolve the Technology Council into a more innovative and strategically focused group. The Council will continue to deal with operational issues, but the focus should be transitioned to planning and thinking ahead.
  - Develop "Technology Snapshots" to capture current technology data and demonstrate the future potential value of that technology for each college, and provide insight into the value that technology brings to their campus.

### ***Growth Strategies***

The following strategies are growth strategies that will help Virginia's Community Colleges achieve greater efficiency and excellence in technology to support student success across all colleges.

- Develop a dynamic strategic planning process to achieve a culture of innovation through the use of technology in order to promote student success and more effective and efficient use of resources.
- Evaluate the technology governance process to ensure processes in use allow for rapid decision-making and the ability to move forward quickly.
- Research operational frameworks that could be implemented to enhance operations and provide additional value to the colleges, including:
  - Centrally coordinated user documentation.
  - Consolidated technology services.
  - Regional or system wide initiatives such as centralized academic virtual labs, virtual servers, web conferencing, or web servers.
  - Implement ITIL or a similar structure to enhance data center/systems management operations.
  - Centralized contracts for training and professional development services

## HIGHLIGHTED PROJECTS

### Special Interest Groups (SIGs)

*Project Description:* Create opportunities for technology staff at the various colleges within VCCS to get together based on their interests and jobs. Use already established avenues such as conferences (ACCS, COVITS, New Horizons, etc.) to gather various groups together for an educational presentation and networking. Meetings could also be held using WebEx or video conferencing, depending on the subject. Material for the meetings will come from current enterprise projects or college success stories that could be replicated across other colleges. Colleges will be asked for input on the agenda for each meeting.

*Expected Goals/Deliverable:* Create professional networks with personnel in similar jobs within the colleges for the purposes of enhancing professional development.

*Impact to Colleges:* More knowledgeable technology staff on campus. Ability to share information on successful and innovative projects with others in the VCCS.

*Expected Timeframe:* Ongoing

*Primary Sponsor:* Vice Chancellor, Information Technology Services

*Results:* The Tech SIG has become an established part of the technology governance process, and now includes at least 2 meetings per year and an advisory board. The purpose as defined in the charter is to enhance professional development and networking, create a community of professionals to improve the discipline, and research technical/operational issues with formal recommendations for adoption to the Tech Council.

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### Implementation of ITIL

*Project Description:* Transition the ITS operations to an ITIL centric model.

*Expected Goals/Deliverable:*

- Align services to the needs of the business
- Develop a service catalogue and SLA's for enterprise systems
- Improve customer satisfaction through a more professional approach to service delivery
- Improved productivity
- Improved use of skills and experience
- Improved delivery of third party service.

*Impact to Colleges:* Colleges will experience improved services and reliability from enterprise systems.

*Expected Timeframe:* FY2013-FY2014

*Primary Sponsor:* Vice Chancellor, Information Technology Services

## Educational Technology

Educational technology is most simply defined as an array of digital tools that advance student learning. It can refer to material objects, such as devices or software, but also encompass more general systems, methods of organization, and techniques. These tools are becoming increasingly sophisticated and being recognized for their learning potential.

The effective use of educational technology supports the academic mission of Virginia's Community Colleges by providing instructors with new ways to deepen student learning and achieve lasting educational outcomes. The seamless combination of technology with pedagogy can increase student engagement, support active learning strategies, foster communication and collaboration, and develop students' skills for future learning and work.

Academic Services and Research (AS&R) provides guidance and direction for the system in the areas of professional development, institutional research, library services, policy planning, educational programs and educational technology services as they relate to the goals of the Chancellor.

Students today are growing up immersed in a world mediated by technology, expectations, dramatically transforming how they communicate, what they value, and how they learn. It is important to ensure that Virginia's Community Colleges have robust and current systems that meet students' expectations for learning with technology expectations and support faculty and staff in their work to ensure student success throughout the VCCS and across the Commonwealth.

### TECHNOLOGY GOAL II

Virginia's Community Colleges faculty and students will have access to electronic teaching, learning and student services resources and opportunities.

### *Operational Strategies*

The following strategies are operational, and continued pursuit will allow Virginia's Community Colleges to maintain the excellence in technology already enjoyed by the faculty, staff and students of the system.

- Colleges, with support from the VCCS System Office (ITS, AS&R, and Workforce Development Services), will provide students, faculty, and staff with access to and training and support on to a variety of digital teaching tools and services that support a variety of instructional approaches.
  - Colleges will maintain 90% of classroom space as an Electronic Classroom (room with an instructor computer and permanently installed projector, LCD panel, Plasma Screen, or computer monitor for students to view materials from the instructor computer).
  - Colleges will provide access to ongoing professional development and support to faculty and staff through workshops, seminars, web tutorials, and/or college training/certification processes that maintain faculty and staff competency with applicable instructional, administrative, and general tools and techniques.
  - Colleges will provide administrative and instructional support for the teaching and learning needs of faculty and students, especially in fully online or hybrid courses.
  - Colleges will provide an online orientation that informs students about e-learning expectations and the skills that promote successful outcomes in distance learning. Such orientation must include information concerning where students can access technology support and academic support if they experience challenges with on-line learning.

- ITS and the Colleges will support the models, standards, and technology for enhancing student services in accordance with the guidelines and plans developed by the Academic and Student Affairs Council.

### ***Growth Strategies***

The following strategies are growth strategies that will help Virginia’s Community Colleges achieve greater efficiency and excellence in technology to support student success across all colleges.

- Create educational technology and information technology “innovation” teams that will collaborate to both explore emerging technologies and their role within the campus environments as well as create technological innovations that drive improved delivery of instruction and instructional outreach.
- Redesign the delivery of selected services to students such that those functions are most effective in promoting student success and delivered in the most cost efficient manner. Possible services include automation solutions for course planning and academic advising, early alert and student intervention tracking, appointment scheduling, transfer planning, graduation application and access to high school transcripts, as well as leveraging private sector services to process transcripts and to provide supplemental, electronic tutorial support.

## **HIGHLIGHTED PROJECTS**

### **Early Warning and Intervention System (E-WISE)**

*Project Description:* Never before has the need to help students cross the finish line been more important. Automated early alert systems make it possible for colleges to identify at-risk students before they withdraw or otherwise stop attending classes. Such early alert systems can automatically raise a flag for a student based on grades, attendance, assignments and online activity according to thresholds set by the institutions and then provides specific guidance to students demonstrating flagged behaviors, performance, or characteristics.

*Expected Goals/Deliverable:*

- Implement an automated early warning system.
- Increase the student retention rate of developmental education students
- Increase completion rates for students
- Increase the use of online interaction for distance education students
- Increase engagement from faculty and staff in student success
- Reduced reliance on human resources for the identification of at-risk behavior and intervention when such identification may be conducted through technology

*Impact to Colleges:* Colleges will be able to improve the ability of personnel to identify the most at-risk students using data from multiple sources. In addition, college personnel will improve their abilities to provide systematic intervention and follow-up – thus increasing the rate of success for students.

*Expected Timeframe:* FY2013-FY2014

*Primary Sponsor:* Vice Chancellor, Academic Services & Research

## **Open Education Resources**

*Project Description:* Course materials often make up a significant portion of course curricula and having access to them is often essential to a student's success in the class. However, the increasing costs of college textbooks are creating a significant barrier to the success of students. Over the last decade, the average cost of college textbooks has risen at four times the rate of inflation. For the average community college student, the cost of books can add up to about 72% of their college tuition. The VCCS is actively working to reduce these costs for its students by supporting several innovative initiatives.

*Expected Goals/Deliverable:*

- Recommendations for reducing textbook costs across the system from the Textbook Costs and Digital Learning Resources Work Group
- Mini-grants through the Chancellor's Innovation Fund to develop open educational resources
- Open & Digital Learning Resources Conference to share innovative OER initiatives at institutions across the state.
- Faculty adoption of free openly-licensed materials for high-enrollment courses (12 grants awarded to identify, review, and customize existing high quality OER to incorporate as the only required material in the course)

*Impact to Colleges:* Improve the success of VCCS students by identifying ways to use digital technology and open educational resources to reduce the costs of college and improve the success of VCCS students.

*Expected Timeframe:* FY2014

*Primary Sponsor:* Chancellor and Vice Chancellor, Academic Services and Research

## Enterprise Applications

Enterprise applications have played a remarkable role in the history of Virginia's Community Colleges, but also in the history of higher education itself over the past decade. Efficiency and effectiveness equate to the ability of the institution's administrative systems to support greater transaction volumes and to meet the business demands of both an increasingly entrepreneurial students and those of regulators and stakeholders who will hold colleges to account for their actions. These demands require the administrative systems to be robust, reliable and flexible.

Recently there has been an increase in the focus on business intelligence and decision support tools, which has allowed institutions to move from data to information and onto intelligence. Trends also show that more institutions are beginning to focus on aspects of integration within the enterprise systems.

Eliminating boundaries and increasing mobility are compelling reasons for higher education's current and ongoing preoccupation with mobile communication. Mobile networks leverage the capacity of portable devices to keep their users continuously connected to enterprise systems and services. Services for mobile devices can be highly personalized and "always on", and have a great dependency on enterprise systems, and portal technologies.

As information becomes more readily available at the desktop and on portable devices, the demand for information showing different types, slices, and aggregations will continue to increase. Students, faculty, staff, educational institutions, business and industry, and other external customers will demand improved access and services from our system. For Virginia's Community Colleges, these applications are provided as enterprise systems with availability for all colleges. This model is a wonderful strength enjoyed by the system, and ensures the sharing of data between colleges. It also creates other issues and opportunities along the way.

The vision for enterprise systems will depend on a variety of strategies to simplify and integrate institutional data, and must include input from everyone associated with them.

- *PeopleSoft Applications* - The PeopleSoft applications, and various other applications using this data, are the heart of the enterprise system. It is crucial to ensure better integration and consolidation of enterprise applications and services and provide more support for these applications. Work must also be done to ensure that modules are being utilized to their fullest to support programs and operations.
- *Learning Support Systems* – This includes the learning management system, Blackboard Learn, and other systems such as Blackboard Collaborate and the Virginia Education Wizard, to support academics. New systems are also being implemented to support student early alert/retention issues and increase student success.
- *Institutional Research/Data* - Data quality and data governance issues continue, but are becoming less of an issue with the implementation of QUINN – the decision support system. The implementation of the finance and student modules provides an excellent source of information for everyone, and the experience will only grow when the remaining modules go live. QUINN also has the ability of integrating data from other systems, and research on those options continues.
- *Project Management* - The implementation of project management standards for all projects within the VCCS will increase the effectiveness and efficiency of projects at both the colleges and system office. The colleges have been implementing the approved standards and guidelines and complete required reports each year on the progress. Additionally, ITS is available to provide colleges with advice and guidance on projects. Research is needed on a system that can track all projects throughout the system.

### TECHNOLOGY GOAL III

Virginia's Community Colleges will provide a comprehensive suite of enterprise applications that are reliable, scalable, usable, functional, and support the administration, teaching, and learning needs of students and colleges.

#### ***Operational Strategies***

The following strategies are operational, and continued pursuit will allow Virginia's Community Colleges to maintain the excellence in technology already enjoyed by the faculty, staff and students of the system.

- ITS, in collaboration with the Colleges, will sustain the enterprise information systems and ensure that they are maintained with the latest software releases.
  - ITS will operate the enterprise systems (such as SIS/HRMS, AIS and Blackboard), keep patches up to date, and add increased functionality as approved by the VCCS Governance structure.
  - ITS, in coordination with the colleges, will improve and maintain online documentation on enterprise systems including business practices, setup, and coding.
  - Colleges will participate in the development and testing of common business processes, student data management, and reporting tools.
  - Colleges will participate in the Enterprise System Workgroups and Advisory Groups, and in the testing of service packs and new enterprise system functionality.
  - Colleges will develop, implement, and share business processes to improve the functionality of the online application, Student Information System, Administrative Information System, and other enterprise systems.
  - Colleges will participate in the implementation of new systems, including the decision support system (QUINN), workforce enterprise system (WES), student early alert system (eWise) and others that may be identified through the various governance groups.
  - Colleges will continue to develop and improve their project management processes, ensuring compliance with the VCCS project management standard and guidelines.
  - Colleges will provide training and support opportunities for faculty and staff so that they can utilize Enterprise system tools, develop appropriate business practices to improve services to students, increase college efficiency, and meet management requirements.

#### ***Growth Strategies***

The following strategies are growth strategies that will help Virginia's Community Colleges achieve greater efficiency and excellence in technology to support student success across all colleges.

- Maximize the use of current resources to operate more efficiently and hold down tuition increases.
- Identify and research potential enterprise applications that could be implemented or that integrate the current business processes and practices together with the PeopleSoft applications.
- Develop and implement a system to track all projects within the VCCS system.

## HIGHLIGHTED PROJECTS

### Workforce Enterprise System (WES)

*Project Description:* Deployment of an automated solution to modernize and improve the effectiveness and efficiency of the core business functions of Workforce Development Services (WDS). Implement a web-based enterprise system that will manage the full development and delivery life cycle of noncredit continuing education workshops, courses, and programs offered by WDS that are currently managed independently by each of the 23 community colleges through decentralized systems, databases, spreadsheets, and homegrown or vendor-supplied applications.

*Expected Goals/Deliverable:*

- Improve the convenience, efficiency and ease of use for students/participants and corporate clients with an intuitive, web-based, user-friendly enrollment system
- Increase enrollments and revenues in noncredit workforce development courses
- Increase the provision of relevant and timely workforce development instruction to meet the emerging needs of Virginia's changing workforce.
- Increase efficiency and accuracy, eliminate the variety of systems, databases, spreadsheets, and documents supporting noncredit workforce instruction, and implement a consistent set of business processes
- Provide a single enterprise solution to enable and foster the design and development of strategic marketing to encourage lifelong learning relationships between the VCCS and participants of all ages and from all sectors.
- Provide accurate, auditable data to support data-driven decision making

*Impact to Colleges:* Provide consistency in the management and delivery of noncredit continuing education services, increase efficiency in the business processes of corporate clients, students, faculty, and administrative staff, and attract higher numbers of participants and students to the VCCS.

*Expected Timeframe:* FY2013-FY2015

Primary Sponsor: Vice Chancellor, Workforce Development Services and Vice Chancellor, Information Technology Services

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### Enterprise Mobile App

*Project Description:* Implement an Enterprise Mobile App to provide a standardized mobile platform for all colleges that will meet the evolving mobility demands of students, faculty and the community. The app will contain a branded mobile destination for easy access to college information, PeopleSoft data and the learning environment.

*Expected Goals/Deliverable:* Creation of a mobile app that integrates SIS data and is available for all colleges.

*Impact to Colleges:*

- Create a standardized platform to allow colleges to deliver essential information and provide access to the information students need, when and where they need it.
- Engage current and prospective students along with their parents, faculty, staff, alumni and the rest of the community.
- Reinforce the college brand with an engaging mobile platform.

*Expected Timeframe:* 2013

*Primary Sponsor:* Vice Chancellor, Information Technology Services

## Enterprise Infrastructure

Virginia's Community Colleges have a robust infrastructure, but need to continue studying technology trends that will provide opportunities to enhance these systems. The VCCS has taken a service-oriented approach to planning for infrastructure by recognizing the increasing value and efficiency that can be provided through sharing across multiple applications. Sharing infrastructure, and determining what is to be shared, require significant effort to plan, build and support, the organizational mission and objectives.

The investment in enterprise systems is neither revolutionary nor transformational. It is an investment in risk reduction, in cost avoidance, and in laying the foundation for potential institutional change. The failure to understand the investment in infrastructure creates a perception that there is no way to discuss the possible return of these investments, or, worse, that there is no institutional return at all.

As a high performing and innovative organization, Virginia's Community Colleges recognize the essential role of technology in accomplishing the mission and creates mechanisms for the proactive exploration of current and emerging technologies. These technologies have the potential to create and sustain an organizational culture that fosters innovation, promotes organizational efficiency, and improves rates of student success.

However, even institutions that are eager to adopt new technologies may be critically constrained by the lack of necessary human resources and the financial resources to realize their ideas. Most colleges have buildings that were not designed for technology such as cellular and wireless signals, and thus are shut out of many potential technology options.

These types of challenges are a reflection of the impact of technology that is occurring in almost every aspect of our lives. They are indicative of the changing nature of the way we communicate, access information, connect with peers and colleagues, learn, and even socialize. Taken together, they provided a framework through which to consider the potential impact of new technologies.

The VCCS currently has a state-of-the art infrastructure to deliver centralized enterprise services. It is crucial that these services continue to be maintained, and that new initiatives continue to be investigated for deployment. The vision for technology infrastructure includes an investment in a solid technology infrastructure that enables all colleges to achieve a position of leadership.

- *Equipment* - Ensuring the enterprise applications continue to operate efficiently requires a robust infrastructure, and the ability to create models for system wide deployment.
- *Video-Conferencing* - The convergence of network, video and audio will provide an opportunity to enhance the video conferencing systems currently in use.
- *Identity Management* - The need for a system-wide identify management structure, with a centralized authentication scheme remains a critical issues for the colleges. This technology, while beneficial for the colleges, will allow individualized services for students when integrated with MyVCCS.

### TECHNOLOGY GOAL IV

Virginia's Community Colleges will maintain a robust, world-class information technology infrastructure utilizing the highest industry standards.

## ***Operational Strategies***

The following strategies are operational, and continued pursuit will allow Virginia's Community Colleges to maintain the excellence in technology already enjoyed by the faculty, staff and students of the system.

- ITS, in collaboration with the Colleges, will develop and maintain technology models, standards, and guidelines that clearly delineate the VCCS technology direction and related expectations for the Colleges.
  - Colleges and ITS will maintain a robust voice, video and data network to meet the instructional and administrative needs of faculty, staff and students; in accordance with the approved technology models, standards and guidelines
  - ITS will provide video conference bridging for connections among VCCS colleges and the System Office in accordance with existing guidelines and standards.
  - Colleges will maintain and secure wireless networks at each campus location.
  - Colleges will provide read/write access for ITS to the Edge router at each campus.
  - Colleges will connect all campuses to the VCCS WAN network at the minimum rate available. Colleges are encouraged to connect all locations directly to the VCCS WAN network, or back to the main campus.
  - ITS and the Colleges will endeavor to ensure a greater level of standardization with applications and infrastructure between all colleges and the System Office through the development of standards and guidelines to support these efforts.
- To satisfy the administrative and instructional needs of faculty, staff, and students, Colleges will maintain a computer infrastructure in accordance with the approved technology standards and guidelines.
  - Colleges will provide and maintain computer workstations and appropriate software for each full-time faculty member, full-time staff member, and administrative wage employee. Configurations will be appropriate for their use level.
  - Colleges will provide and maintain computer workstations and appropriate software for adjunct faculty in a ratio of 1 personal computer for every 20 full-time equivalent (FTE) adjunct faculty. Configurations will be appropriate for their use level.
  - Colleges will provide computer workstations and appropriate software for student use in classrooms, labs, or other student accessible locations (including libraries and student information kiosks) equal to a minimum of 10% of the annual full-time equivalent students (FTES).
  - Colleges will ensure that software is not more than one generation behind the current version. Colleges will document exceptions for bona fide instructional or administrative purposes, such as computer repair programs.
  - Colleges will maintain at least one Commonwealth Classroom per campus and one Commonwealth Conference Room per college following the VCCS models, standards, and guidelines. (See definition in Appendix A.)
  - Colleges will assess use of new technologies, including things such as virtual servers, digital imaging, electronic file sharing, and electronic signatures to reduce energy consumption, paper use and disposal costs.

### **Growth Strategies**

The following strategies are growth strategies that will help Virginia’s Community Colleges achieve greater efficiency and excellence in technology to support student success across all colleges.

- Create a broad-based task force to develop a long-range plan that supports a culture of innovation through the strategic use of technology.
- Provide monitoring services on the availability of the college’s campus edge router to facilitate prompt identification of provider service outages
- Continue development on an identity management system to integrate into MyVCCS, and implement a more robust Intranet system between all VCCS entities.
- Research and test programs for shared technology services across the system, to potentially include support from other colleges, the system office, outside vendors, or a combination thereof to implement.
- Research networking technologies and designs that will allow the VCCS MPLS network to remain current and robust.

### **HIGHLIGHTED PROJECTS**

#### **Upgrade VCCS WAN**

*Project Description:* Transition the current VCCS WAN to a new design that will bring 100Mbps Ethernet WAN connections to every college campus and reduce costs. Secondary backup connections will also be investigated

*Expected Goals/Deliverable:*

- New circuits installed and operational
- Double current bandwidth to respond to increasing demand.
- Provide an easy upgrade path to Gigabit Ethernet speeds
- Acquire an inexpensive lower speed backup circuit from a different provider to increase resiliency
- Provide Ethernet Services to each college’s remote campuses.

*Impact to Colleges:* Colleges will experience increased bandwidth, and improved services and reliability from the VCCS WAN

*Expected Timeframe:* FY2013-FY2014

*Primary Sponsor:* Vice Chancellor, Information Technology Services

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#### **Office 365 Migration**

*Project Description:* Migrate college and System Office email to Office 365

*Expected Goals/Deliverables:* Reduced cost of providing email and related communication services without compromising the quality of service

*Expected Timeframe:* FY2013-FY2014

*Primary Sponsor:* Vice Chancellor, Information Technology Services and various college Presidents and CIO’s.

## Security/Emergency Preparedness

The twenty-first century has created computing and network technologies with the ability to make local information available worldwide, while global information is accessed locally. The security of information and technology is a system-wide concern, but it is also essential to promote access to information and freedom of discourse, while ensuring personal privacy and protecting the intellectual property rights of individuals and other rights-holders.

Higher education institutions are centers of knowledge, discovery and intellectual exploration. Virginia's Community Colleges value and take pride in the openness and opportunities for learning and welcome students with open arms. Professors share their knowledge with students and colleagues - not just at their own college, but all over the world. Information is a valuable asset on campuses, and most is shared liberally even though some information is private or restricted.

There are laws and regulations that seek to safeguard intellectual property, protect personal information, and ensure that funding is used appropriately. These laws help protect businesses, education institutions, and individuals from theft and fraud. However, ultimately, it is every college's responsibility to safeguard their information.

In today's ever-changing climate, awareness and planning are our best defense against hazardous conditions. Virginia's Community Colleges are committed to providing emergency response plans to ensure the safety of the students attending community colleges. The same commitment is made regarding the enterprise systems, which continue to be depended upon by all college constituents. Even so, it is important that written plans are available, and testing is completed to ensure these systems could be recovered in the event of a disaster.

The rapid growth of the Internet and mobile devices has created an increasing dependence on technology, which coupled with increased awareness from large scale disasters has contributed to the realization that more could and probably should be done. Another driving force for emergency preparedness is the increasing government regulations mandating business continuity and disaster recovery plans.

Knowledge and information are valuable assets and are an integral part of college activities, but not all campus information is for public consumption. Individuals and organizations that want to obtain innovative or restricted information may have ulterior motives and may misrepresent themselves and their intentions in order to gain access to restricted information, or they may outright steal it. The VCCS must be vigilant and be cognizant that there are dishonest actors and organizations that would take advantage of the open and sharing environment that characterizes higher education.

- *Disaster Recovery/Emergency Preparedness* - The increasing importance of technology to ensure continuing operations for the colleges, has become a greater priority in recent years. The System Office must have a disaster recovery plan for all enterprise systems, but should also provide assistance to the colleges, and explore avenues to help provide backups for critical infrastructure.
- *Security* – Complying with security standards continues to be a major burden for all colleges, and the shift to an ISO27000 framework is proving that to be true. The goal is to relieve some burden from the colleges, without compromising security of data.

### TECHNOLOGY GOAL V

Virginia's Community Colleges will maintain emergency preparedness, disaster recovery, and continuity of operations plans for technology services.

### ***Operational Strategies***

The following strategies are operational, and continued pursuit will allow Virginia's Community Colleges to maintain the excellence in technology already enjoyed by the faculty, staff and students of the system.

- ITS will develop and maintain a Disaster Recovery Plan to ensure continued operations of enterprise services and applications.
- Colleges will continue to maintain and update all planning documents outlined in the VCCS Contingency Planning and Business Recovery Program and the VDEM Continuity of Operations Plan (COOP).
- Colleges will update emergency preparedness and continuity of operations plans for technology services on an annual basis.
- Colleges will develop, maintain and regularly test emergency communications plan/systems for communicating with faculty, staff, and students.

### ***Growth Strategies***

The following strategy is growth strategies that will help Virginia's Community Colleges achieve greater efficiency and excellence in technology to support student success across all colleges.

- Research potential consolidated services that could be offered to the colleges to assist with Disaster Recovery operations (such as backup, web hosting, etc.).

#### **TECHNOLOGY GOAL VI**

Virginia's Community Colleges will maintain a secure information technology infrastructure in accordance with the approved ISO27000 and VCCS technology models, standards, and guidelines.

### ***Operational Strategies***

The following strategies are operational, and continued pursuit will allow Virginia's Community Colleges to maintain the excellence in technology already enjoyed by the faculty, staff and students of the system.

- ITS, in conjunction with the colleges, will define, implement and maintain an information technology security organization and plan necessary to comply with all federal, state, and local security regulations. The plan should include a description of the information technology security roles and responsibilities at the enterprise level as well as on the college campuses.
- Colleges will establish security plans and procedures in accordance with the approved VCCS technology models, standards, and guidelines.
- Colleges will implement a security program that conforms to the established security plans and procedures to maintain the security and privacy of faculty, staff, and student data.
- Colleges and ITS will complete VCCS Statement of Compliance attesting that the information security program is compliant with the current VCCS Security standards.

### ***Growth Strategies***

The following strategy is growth strategies that will help Virginia's Community Colleges achieve greater efficiency and excellence in technology to support student success across all colleges.

- Create a professional development program to ensure that security personnel understand the current security threat landscape and will be able to respond appropriately.

## HIGHLIGHTED PROJECTS

### **Security Architecture for VCCS**

*Project Description:* Update the current ISO27000 security framework to ensure it meets the needs of the colleges and will provide the security protection needed. The last year has been spent rolling out the new framework, and this project will assess the work and made changes as needed.

*Expected Goals/Deliverable:* The VCCS will have a flexible, risk based security program that allows implementation of controls that align with our business needs.

*Impact to Colleges:* Colleges will have an enterprise security framework to use, and can augment it with local security policies as needed. This is a change from the older security framework where each college had their own security program.

*Expected Timeframe:* FY2014

*Primary Sponsor:* Vice Chancellor, Information Technology Services

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### **Secure Remote Access**

*Project Description:* Deploy two-factor authentication and VMware View-based desktops for System Office staff that need to access VCCS resources remotely. Pilot has been completed and the system is being rolled out to a broader audience within the System Office.

*Expected Goals/Deliverable:*

- Enable system office staff to securely access a virtual desktop from any remote location.
- Enhance disaster recovery and business continuity capabilities.
- Two-factor authentication means increased security, and meets security requirements.
- Potentially reduce costs for desktop replacements.

*Impact to Colleges:* Greater service levels for the colleges based on system office staff accessibility to critical infrastructure

*Expected Timeframe:* FY2014

*Primary Sponsor:* Vice Chancellor, Information Technology Services

## Support and Training

The key to technology helping an organization is keeping these functions available and operational for use as much as possible. The reality is that it is not possible to have 100% operational up time, so one of the ways to handle times when systems are not operational is a service desk.

A Service Desk is a resource designed for users to contact when they are having problems. Typically, service desks will have multi-tiered trouble shooting approach, and the implementation of this will vary by college. For some it could be one person with a wealth of knowledge and for others it could be several people. The most important things that should be included in any service desk include a single point of contact for all problems, tracking capabilities, and escalation procedures.

Help desk or service desk organizations grow and evolve organically over time as specific needs emerge and different groups within technology and the business respond. As a result, many organizations find themselves with multiple, potentially redundant support organizations with suboptimal structures and processes. The VCCS has reached that point.

Virginia's Community Colleges provide a large number of applications for students, faculty and staff. Due to the nature of these applications, it is crucial to ensure that support and training are available for all constituencies. Throughout the system, everyone relies on the service desk teams to deliver high-quality service, consistently and cost effectively. This is a major challenge due to the number of multiple, disparate service desks that currently exist. The concept of a consolidated help desk has been discussed for years, and the potential promises are great.

Hand in hand with support is professional development and training. Training is more than just building the skills and knowledge of individuals for their own personal benefit. Organizations that have invested in training report improved recruiting, higher retention and better output from employees. The VCCS currently has in place some avenues for training, but could also work together to create more.

- *Help Desk Issues* - Service is the goal for all technology operations, and thus this area is very important to the success of technology on campus. In addition to being responsive there is a need for after hours help desk services, and a centralized help desk for various functions.
- *Professional Development* - Training for technology is in high demand, and the VCCS should consider alternatives like peer groups, and system-wide training efforts to ensure that adequate training is available.

### TECHNOLOGY GOAL VII

Virginia's Community Colleges will provide adequate support for all constituencies, and professional development opportunities for technology staff.

### ***Operational Strategies***

The following strategies are operational, and continued pursuit will allow Virginia's Community Colleges to maintain the excellence in technology already enjoyed by the faculty, staff and students of the system.

- Colleges and ITS will maintain Help Desk services for faculty, staff, and students. (Tier 1 defined as college provided help; Tier 2 and Tier 3 defined as VCCS Information Technology Services staff assistance or ITS provided vendor assistance to resolve an outstanding issue.)
  - Colleges will ensure that all students, faculty, and staff have access to Tier 1 Help Desk services to support at least the network, email, SIS, AIS, Blackboard, and Directory Services.

## Support and Training

- Colleges and ITS will develop and publish Service Level Agreements (SLA's) for the delivery of technology services.
- Colleges and ITS will develop and maintain a readily accessible and comprehensive communication infrastructure to provide reliable communication with faculty, staff, students, alumni, and interested constituents.
- Colleges will maintain a comprehensive website that provides current and prospective students and the public with information about the college's programs, class schedule, mobile apps, tuition, fees, in-person and online registration, news, and upcoming events and a link to enterprise applications.
  - ITS, in collaboration with the Colleges, will maintain a web page model, standard, and guideline to ensure compliance with the Commonwealth IT Accessibility Standard.
  - College websites will include links to VCCS Online, Wizard, textbook titles, cost, ISBN codes, and purchasing information for required textbooks.
  - Colleges and ITS will identify system-wide training opportunities for technology staff, including opportunities within peer groups, expert resources and vendor relations. Colleges will ensure that employee work profiles and classifications of IT staff reflect changes in knowledge, skills and abilities gained from training and collaborative efforts.

### ***Growth Strategies***

The following strategies are growth strategies that will help Virginia's Community Colleges achieve greater efficiency and excellence in technology to support student success across all colleges.

- Research and analyze the benefits and costs related to a consolidated service desk program for all colleges and the System Office.
- Recommend strategies to provide assistance with implementing technology-based strategies for support and training practices, including identification, design, evaluation, and training.

## **HIGHLIGHTED PROJECT**

### **Consolidated Service Desk**

*Project Description:* Investigate the feasibility of a consolidated service desk, with a single point of contact for reporting issues related to technology for all colleges and the System Office. The solution should standardize service desk delivery across all colleges (including System Office), and provide support after standard operating hours.

*Expected Goals/Deliverable:*

- Define activities that could be associated with a consolidated service desk
- Create needs assessment in all potentially affected areas
- Create detailed success criteria and document a concrete set of requirements
- Select a single problem management system for the system
- Create a timeline for implementation of a consolidated service desk

*Impact to the Colleges:* Greater problem and issue resolution in several areas (not just technology) for all constituencies.

*Expected Timeframe:* FY2013 – FY2014

*Primary Sponsor:* Vice Chancellor, Information Technology Services

## Planning and Leadership

There is a persistent and internalized myth that the college campus is (or at least should be) a place that is on the cutting edge of technology innovation and adoption. Faculty, students, and staff have been conditioned to expect that well-designed, multiplatform, fully integrated technology with nearly unlimited customizations and superior graphical user interfaces should be the norm.

That environment is their experience in their lives as private consumers -- and no longer the reality of most college technology services providers. Frustration with the lack of agility, available resources and talents has led to a growing position that technical staff just need to get out of the way – after provisioning reliable network access, limited security and related regulatory and risk-mitigation roles. According to the myth, all other services can be accessed with better customer satisfaction through alternatives sources beyond the campus.

However, the list of technical solutions, functional initiatives, and development projects continues to outpace the capacity of most colleges by orders of magnitude. The unenviable challenge of managing the rising expectations in a resource-constrained environment is going to require potential tough choices on direction, priorities, and rationalizing resources against never ending needs. College technology leaders hold a complex position that oversees current technology and information assets and strategically plans with other organizational leaders for the future of the institutions. These personnel work in rapidly changing environment and face a variety of challenges, including difficult funding, unique institutional cultures, tremendous privacy and security concerns, changing political climates, increased accountability, expensive initiatives, complicated governance structures, increasing strategic responsibilities and changing higher education priorities.

The VCCS currently has a robust and modern technology infrastructure, with enterprise applications that provide services for all colleges and the System Office. It is imperative to ensure that planning for these services continues, along with potential enhancements. ITS and the Colleges must work together to leverage the efficiencies provided by the centralized infrastructure model, while allowing for local optimization of new technology. This type of effort will require planning and research into emerging technologies, along with the leadership to make this happen.

The importance of the success of these technology leaders cannot be overstated for they enable the accomplishments of their institutions and its members.

- *Emerging Technologies* - The research and investigation of new technologies for use in the classroom, to support end-users, to make VCCS more cost-efficient or to automate current processes is crucial to remaining competitive. It is imperative to ensure that everyone keeps abreast of new technologies and how they might be applied to their individual situation.
- *Strategic Planning* - As the VCCS implements *Achieve 2015*, technology will be one of the catalysts to meet the goals. It is imperative to ensure that a culture of planning exists for all technology operations, both at the System Office and the Colleges. This will ensure these efforts create systems to support the success of *Achieve 2015*.
- *Leadership* - The importance of the success of the technology leaders in the system cannot be overstated - for they enable the accomplishments of their institutions and its members.

### TECHNOLOGY GOAL VIII

Virginia's Community Colleges will provide the planning and leadership necessary to ensure that technology provides adequate systems to support *Achieve 2015*.

### ***Operational Strategies***

The following strategies are operational, and continued pursuit will allow Virginia's Community Colleges to maintain the excellence in technology already enjoyed by the faculty, staff and students of the system.

- The Vice Chancellor will provide leadership for technology at the System Office, and with the Colleges.
  - The Colleges will assess their current usage of technologies on campus to determine how and when the systems are being used. Data will be used to enhance decision-making.
  - ITS will develop a framework to focus on planning, beginning with a planning calendar to show all potential events during the year.
  - The Vice Chancellor will consider new initiatives to get colleges involved in planning.
- Colleges and ITS will achieve national recognition among community colleges for information technology infrastructure.
  - Colleges and ITS will maintain a membership to EDUCAUSE and annually complete the EDUCAUSE Core Data Survey. ([www.educause.edu/cds](http://www.educause.edu/cds))
  - Colleges will participate in an annual ranking survey, such as the Center for Digital Education, to achieve a national ranking for its information technology and/or annual innovation in technology competition, such as the Governor's Technology Awards. ([www.covits.org/](http://www.covits.org/))
  - Colleges and the System Office will annually submit a minimum of three proposals on technology achievements to major statewide, regional, and national conferences, such as New Horizons, the Association of College Computing Services of Virginia, HEUG, Blackboard User Group, EDUCAUSE, or the League for Innovation.

### ***Growth Strategies***

The following strategies are growth strategies that will help Virginia's Community Colleges achieve greater efficiency and excellence in technology to support student success across all colleges.

- Champion technology findings and recommendations from the reengineering task force.
- Identify long-term strategies to foster the use of technology in promoting a culture of innovation and high performance throughout the VCCS. Create innovation teams to explore emerging technologies and their role within the campus environment. Research the feasibility, staffing and implementation possibilities for the innovation teams.
- Enhance the current technology planning environment, and ensure that technology planning is occurring at all colleges, and within the System Office.
- Identify specific problems or goals tied to the mission of the VCCS, Achieve 2015, or the Re-engineering Task Force that could be addressed with technology-based innovations. Develop, and/or refine specific innovative technology solutions that should be implemented within the next five years in support of those solutions.
- Identify ways to foster and perhaps provide incentives for the identification and development of innovative technology-based solutions.
- Recommend strategies to facilitate improved communication and accountability throughout the VCCS in order to avoid duplication of effort, leverage resources, and improve efficiencies in the acquisition and implementation of technology-based solutions among individual colleges, the System Office, and across the System.

## HIGHLIGHTED PROJECT

### **Innovation and Technology Task Force**

*Project Description:* A high-performance culture is critical for driving and sustaining growth, building employee commitment and enthusiasm, and acting with speed and flexibility when opportunities arise. To meet this need, a task force is being created to develop a long-term technology-based plan to foster innovation and high performance across the VCCS. The ultimate goal is to strategically invest in empowering individuals to take increased responsibility for leveraging technology in their work.

*Expected Goals/Deliverable:*

- - Spur innovative thinking, enable more efficient workflow, foster greater student engagement, and support improved rates of student success.
- - Create a culture of innovation through the use of technology, people and other resources.
- - Stakeholders will become more comfortable in identifying problems for which innovative applications are needed.

*Impact to Colleges* – Great influx of ideas that will assist in resolving problems and generating new services for students.

*Expected Timeframe:* FY2011

*Primary Sponsor:* Chancellor, Reengineering Task Force II

## Governance

Technology governance at the VCCS represents the organization, compliance, policies, and procedures necessary to ensure information systems support the organization's objectives, are used responsibly, and that IT-related risks are minimized. The VCCS has established a set of expectations for technology products and services identified from the *Achieve 2015* goals and objectives and for ongoing operations in accordance with best practices and technical standards. The expectations establish and prioritize technology service levels and products to be delivered at both the enterprise and college levels to meet the business needs of the VCCS. The expectations are clearly written so as to have measurable goals and verifiable post audit compliance.

The creation of a reengineering task force has accelerated the demand for technology solutions, and new ideas are being generated as a result of the work of the various work groups in use. As a result, new ideas will be generated through the work of this group, and then forwarded to the appropriate governance group to continue the communication and approval process.

Potential technology solutions are vetted through the VCCS governance process, which recommends enterprise level solutions to the Chancellor for strategic approval. The VCCS IT governance process consists of two governing bodies – the Technology Council and the Advisory Council of Presidents. As needed, information can also be approved through the State Board for Community Colleges.

### Technology Council

The VCCS Technology Council serves as an advisory body to the Vice Chancellor of Information Technology Services. The Council membership constitutes the forum for analyzing information technology issues such as funding models, annual planning documents, operating policies and procedures, technology standards and guidelines, and proposed requirements and directives for college-specific technology plans from a system-wide policy perspective. The Council also reviews the work of information technology stakeholder groups and workgroups to ensure coordination and collaboration.

As needed, the Vice Chancellor for Information Technology Services will create work groups to review a specific issue and return recommendations for the Technology Council to review. Issues covered typically affect all colleges and allow for a standardized implementation of procedures across the system. Some areas that have benefited from the use of work groups include security implementations, tech funding models, consolidated help desk, planning initiatives and more.

One of those groups is the Tech SIG. This group provides professional development opportunities for technology staff, but also has the ability to research technical issues and make a recommendation to the Tech Council. Membership for the Tech SIG is open to all technical personnel within the system, and allows them to have a voice in implementing new technology within our enterprise systems. The Tech SIG also provides a wonderful networking opportunity for all personnel, thus enhancing the collaboration between colleges.

The Tech Council meets four times a year as scheduled by the Vice Chancellor for Information Technology Services who serves as Chairperson. The membership consists of twenty-three members at the Vice President level or institutional equivalent, with each college having one representative and one vote. Proceedings of the meetings of the Council are distributed to the members of the Council and to the Chancellor, the Chancellor's Staff, and the Presidents.

Recommendations on system-wide policy matters are forwarded to the Chancellor who may present them to the appropriate committee of the Advisory Council of Presidents for its consideration. System-wide policy recommendations coming from the Council are not implemented until the Advisory Council of Presidents has reviewed them.

### *Advisory Council of Presidents*

The Advisory Council of Presidents for the VCCS serves in an advisory capacity to the Chancellor of the VCCS. It is the chief statewide advisory group, with the community college presidents serving as the representatives of their institutions. The Advisory Council of Presidents meets every other month to deliberate and make recommendations on items in a formal agenda set by the Chancellor.

The Advisory Council of Presidents has four (4) standing committees: Academic, Student Affairs and Workforce Development, Budget and Finance, Human Resources, Information Technology

These committees conduct detailed investigations into matters referred by the Chancellor; including recommendations on system wide policy changes from various other governance groups. Results of these detailed investigations are reported to the full Council for deliberation and become the basis for subsequent recommendations to the Chancellor.

Special ad hoc committees of deans, faculty, students, etc., may be appointed by the Chancellor to work with a standing committee of the Council of Presidents on a specific issue.

### ***The Technology Approval Process***

Technology at the Virginia Community College System provides the mechanism for faculty and staff to accomplish the mission of the system and each individual college. Therefore, it is imperative to ensure the technology is administered effectively and efficiently to maximize the resources available for all colleges. The greatest strength to accomplishing this comes through the governance process, along with the development process used to create the college-specific technology plans.

### *Chancellor's Expectations for Technology*

This set of guidelines sets a minimum standard for colleges and the System Office regarding technology infrastructure, services, and support. The guidelines ensure that all campuses provide a high level of technology and support services to students, faculty, and staff. The Chancellor's Expectations also serve as the base document for the strategic plan, which ensures all planning is aligned and will assist in achieving the goals for *Achieve 2015*.

### *Technology Inventory and Trend Analysis*

Inventory completed by all colleges each year, the purpose of the Inventory and Trend Analysis is to gather data that measures how each college is meeting the Chancellor's Expectations for Technology. The report provides a list of all major technology assets by category for each individual college and includes data about the workstations, servers, networking, security, help desk, classrooms, and more.

### *Technology Funding Model*

The technology funding model is used to allocate resources and ensure compliance with the Chancellor's Expectations. The underlying philosophy seeks to create a base level of technology, so that all colleges start with the same percentage of technology needs met. While many colleges invest more than the minimum requirements, this approach insures a base level of technology for all colleges. The funding model delivers a services-based model, which calculates the total need for college technology services as required by the Chancellor's Expectations, then distributes available technology funding fairly and equitably for ongoing operations and approved projects.

### *Technology Plans*

Annual planning exercise that details the projects, actions and procurements necessary to accomplish the Chancellor's Expectations for Technology.

## Conclusion

Despite many challenges that appear in the paper each day, Virginia's Community Colleges continue their commitment to expand efforts to serve the unmet needs of more people in Virginia, and to assist them and the communities in which they live have improved economic opportunities. Community colleges are the key to the future of this country and to so many of our citizens, and technology is a major enabler of the work that has been completed.

*Achieve 2015* is the strategic plan for the VCCS, and is focused on increasing student success with goals in the areas of Access, Affordability, Student Success, Workforce and Resources. As we near the mid-point of the plan, the system has already met five of the eight goals embedded in the plan – and thus the goals have now been revised again, to ensure that the needs of Virginians are met.

The work of the reengineering taskforce is also continuing as the group examines and rethinks almost every aspect of the organization and operations to find resources and opportunities that will allow the VCCS to serve our students in a continued tradition of excellence and innovation. Technology continues to be a major player in all initiatives and provides synergies for the entire system. The ability of the VCCS to fulfill its fundamental mission of teaching and learning is increasingly dependent upon technology. Virginia's Community Colleges must become agents for change, actively engaged in the design, development, and innovative application of technology in teaching, research and learning.

The vision for technology is to be strong and keenly focused on information technology at a system-wide and college-wide level; collaboratively architecting, planning, and implementing in a way that minimizes investments, yet delivers highly effective learning and business systems, and communications. The vision capitalizes on the greatest strength today – the ability to recognize and respond to system-wide opportunities and leverage economies of scale. Not lost in the vision is the need to keep pace with our students and faculty who live in the world around us. Research is ongoing into emerging technologies, mobile devices, consumerization, and more.

This plan will guide the VCCS in the realization of the system's innovative view of information technology, and assist in the reengineering efforts to become more efficient with resources. This plan counts on innovative thinking and cooperation between all divisions to accomplish the goals. It has outlined several goals and strategies that will guide investment and direction into the future. The success of Virginia's Community Colleges in this millennium will be measured in large part by the achievements of technology to reach the vision set forth in *Achieve 2015*.

## Institutional Information

**Institution Name:** Virginia Community College System (VCCS)  
**Plan Date:** April 2013  
**Approved By:** Dr. Glenn DuBois, Chancellor  
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